1987

Talcott Parsons' Economic Sub-systems Model and County-to-County Net Migration Patterns in South Dakota 1975-1980

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TALCOTT PARSONS ECONOMIC SUB-SYSTEMS MODEL AND COUNTY-TO-COUNTY NET MIGRATION PATTERNS IN SOUTH DAKOTA 1975 - 1980

BY

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A dissertation submitted
in partial fulfillment of the
requirements for the degree
Doctor of Philosophy
Major in Sociology
South Dakota State University
1987

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COUNTY-TO-COUNTY NET MIGRATION PATTERNS IN
SOUTH DAKOTA 1975 - 1980

This thesis is approved as a creditable and independent investigation by a candidate for the degree, Doctor of Philosophy, and is acceptable for meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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Abstract

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This paper explores Talcott Parsons' theoretical use of social systems models with applications for understanding the ability of a social system to exploit external economic resources, both capital and labor, while examining the pattern maintenance functions of the system that maintain the population base.

As social systems address common problems, four basic categories of activity are delineated by Parsons. Concentrating on the vertical cells of Adaptation and Latency, the economic sub-system is examined for its affects upon the migration process.

Four distinct economic types are identified with four different patterns of migration based upon the theoretical perspectives of Parsons.

This paper suggests that Location-specific capital (LSC) may be associated with the ability of a social system to develop strong pattern maintenance as identified by Parsons, that maintains the population base and weakens the push-pull effect.

Data taken from the County-to-County Net Migration tape supplied by the U.S. Census Bureau was used to identify South Dakota counties having patterns of net in and out-migration above and below the statistical mean. Four county types were created based upon Parsons' paradigm of adaptation and maintenance.

Variables associated with both adaptation and maintenance patterns were then selected to measure their relationship with county types. Using stepwise selection, the variables were examined to see which ones would support the theoretical model. Six variables were selected with a Wilks' Lambda of 0.261, accounting for approximately 74% of differences between groups.

Discriminant analysis was used to classify counties into clearly defined groups in contrast to classification of the theoretical model.

Testing Parsons' theoretical model using census data may be the first application of this kind. Subsequent refinements to the model should be encouraged using different variables that would increase the statistical explanation of the theory.

ACKNOWLEDGEMENTS

I would like to thank the faculty and staff of South Dakota State University for their assistance in this project, especially those who served on my committee.

It was a great loss to us all when Dr. Orv Schmieding passed away. He was a kindly man who inspired students and loved his fellow human beings. We have all been enriched by his caring compassion.

The death of Dr. Marvin Riley also came as a great loss. Dr. Riley loved teaching. He shared his vast knowledge of theory and demographics with his students and we are all better scholars because we knew him.

I would like to thank Dr. Robert Dimit who gave me encouragement to finish when it was needed, and for his willingness to serve on my graduate committee after his retirement.

My colleague, Dr. Linda Baer, also deserves recognition for her guidance and direction. Her work as my graduate advisor, was greatly appreciated.

Others on the committee deserve special thanks. They were able to provide the assistance and comments needed to help complete the finished product.

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CHAPTER I

STATEMENT OF THE PROBLEM AND OBJECTIVES OF THE STUDY

Introduction

One of the three major components of "formal demography", along with mortality and fertility, is the study of human migration. (Bogue, 1969) These three areas of study have been referred to as the "components of population change" inasmuch as they are the determinants of change in population size, composition and distribution.

Migration

There are many different definitions of migration each of which reflects the diverse consequences of the phenomenon and its impact upon the social order. In a theoretical sense, migration refers to "those changes of residence that involve a complete change and readjustment of the community affiliations of the individual." (Bogue, 1969:489)

Some suggest that movement of people must involve the permanent crossing of political or administrative boundaries (Overbeek, 1982:754) while others suggest that

migration involves geographical, economic and social movement (Brown, 1977:13-14).

Impact on Social Order

Historically, the movement of people from one geographic area to another has been linked to economic factors. As individuals and groups seek to enhance their well being and provide for the necessities of life, they find themselves leaving one area for another locale that promises hope and opportunity.

This movement of people is not without its impact on both the sending and the receiving regions. A loss in one area may result in as much social disorganization as in the receiving area, provided significant population shifts occur.

Effects of Migration in South Dakota

South Dakota has experienced a constant flow of county to county migration between rural and urban areas. Educational opportunities and training often require that residents relocate to other areas, while employment

opportunities also contribute to intrastate moves as individuals seek to improve their income level and standard of living. As a consequence of this migration activity, counties experience problems in their social institutions, including family structure, schools and religious organizations. In addition to the economic stability of counties as fiscal entities, the development of public policy programs, as well as the relationships with neighboring counties, are all affected.

Economic factors associated with migration continue to be dominant determinants in the migration process. However, there is some indication that although economic factors continue to be the most significant, their importance may be declining (Beale, 1977; Zelinsky, 1977; Long, 1985). Yet, in the process of studying migration, attention given to migration determinants have overlooked those factors associated with holding individuals in community, rejecting the forces and appeal of opportunities presented by migration that have prompted others to relocate.

The period of 1960 to 1980 saw the migration phenomenon continue throughout the United States. However, there are

some early indications that national migration has slowed. Migration rates have stayed the same for persons in their 30's but there is a decrease of migration for people in their 20's. The average person may move two or three fewer times in a lifetime. Whereas the average individual could once be expected to move about 13 times in a lifetime, the expected number of moves has been reduced to ten. (Long, 1985). Just as the latter part of the 1970's saw a turnaround in migration patterns, the latter part of the 1980's may be witnessing a migration slow down. People today are not moving with the same frequency that they once did. (Ibid., 1985)

Of the variables associated with human migration, there have been numerous attempts to identify descriptive and causal variables (DeJong and Gardner, 1981; Greenwood, 1975; Shaw, 1977; Peterson, 1965, et.al.) A great deal of study has been done concerning factors related to migration. Yet, an inquiry into those factors associated with a social system's ability to maintain its population base in a community has received less attention.

Migration, as a component of population change, is of greater complexity than fertility and mortality in that it has a dual affect. It affects both the area that receives the migrant and the area that sends while fertility has only an additive effect and mortality a separative effect on individual populations.

While fertility and mortality are single, involuntary, biological events that occur within the lifespan of the individual, migration patterns are often multiple, voluntary and social occurrences. The complexity of migration requires greater study and understanding since the impact of migration on the human community is more capricious.

As policy makers and planners in rural counties in South Dakota attempt to keep their population base from eroding due to the forces of migration, they need to address ways in which systems that contribute to holding population, i.e., factors of pattern or population maintenance, can be established.

The focus of this research will be to (1) construct a theoretical model using Talcott Parsons' sub-system theory of economics; (2) select sample variables that have, through

previous research, been associated with (a) the ability of the system to adapt and interact successfully with the external environment; (b) the ability of a social system to maintain itself; and, (3) test the theoretical model using county to county migration data for South Dakota.

Theoretical Review

Migration Theory: Inadequacies in Migration Theory

Although there appears to be an abundance of statistical data on migration, both macro and micro in scale, "there is a surprising lack of systematically accumulated knowledge on the subject". (Shaw, 1975:1) Most analyses of migration are based upon empirical observation of movements between geographic areas. Through their association with variables of topical differences among scholars, inferences are made and conclusions drawn based upon the characteristics chosen by the study.

J.A. Jackson in his work Migration (1969), is cognizant of the problem associated with strengthening the theoretical framework of migration:

> "...the amount of empirical evidence available in the field of migration is enormous and the range and coverage of the statistical data is constantly improving... there has been only a relatively slight attempt to order the confusion with the development of theoretical propositions and models which would lend both elegance and understanding to this large and important subject." (Jackson, 1969:39)

How Theory Might Apply

Migration research may be put in better perspective when used in a theoretical orientation that places migration in a social systems model. A broad understanding of the social order and a theoretical approach to migration generated by that approach should help bring the conclusions of migration studies into focus.

It will be the assumption of this study that the desire to migrate is the consequence of dynamic forces present in the social system, and that the propensity to remain in one geographic area as a non-migrant is also the result of similar social forces.

Economic Approaches to Migration

Studies continue to demonstrate that economic factors are the most significant variables associated with

migration. While the importance of economic factors may have declined, they are still the most important in providing an impetus for migration activity.

Economic theory based upon the principles of supply and demand, when applied to movements in the labor force, have received a great amount of attention by scholars (Lee, et al. 1957; Kuznets, et al. 1960; Eldridge, et al. 1964). Cost-benefit studies based upon life-long income expectations (Sjaastad, 1961,1962; Brennan, 1965; Kottis, 1972) have also been made.

In addition, other economic approaches to understanding migration have been conducted. Labor force migration studies (Karcel, 1963; Herrick, 1965; Taber, 1968; Shaw, 1974); interstate wage differentials and migration (Schmid, 1967; Hultman, 1970); and cost-benefit models (Brennan, 1965; Sjaastad, 1962) have also been completed.

Economists heavily rely upon the use of secondary statistical data and aggregate models to aid them in understanding migration. It should be noted that "the guiding premise of this (economic) approach is that man is economically rational, an economic maximizer, and that he

will perceive and evaluate migration on this basis." (Shaw, 1975:59).

Talcott Parsons

Using Parsons' theoretical approach to a social systems model, this paper will explore the applicability of the economic sub-system to understand how a social system develops and utilizes resources to attract both capital and labor, for its own ends. Also, it will examine ways in which a social order can maintain itself by exerting economic activity that will not only attract its resources but hold them in a state of equilibrium for the benefit of the social system.

Parsons generates a theoretical model stating that the a social system has two areas of concern in maintaining itself: dealing with the external environment and dealing with the internal environment. In dealing with the task of systems maintenance, the social order must also address its activities as dealing with the ends, or objective goals; and the action necessary to achieve those goals, the means.

In creating a means-ends/internal-external, two-by-two table, Parsons assembles the theoretical framework that identifies and categorizes a program of social action. Parsons refers to one of the two-by-two cells of the social systems model as adaptation, the means by which society deals with external elements.

A second cell also deals with the means by which the social order addresses activity with the internal environment which provides for systems maintenance. Whereas the former cell (A) deals with attracting and utilizing capital and labor external to the system, the systems maintenance cell (L) concerns itself with the means by which a social system can maintain itself internally.

The applications of the Parsonian economic sub-systems model for understanding migration become more obvious when examining economic factors associated with migration. The theoretical system provided by Parsons provides a basis by which migration may be better understood.

Need for the Study

Bogue believes that "some of the most acute social problems of the world today are associated with migration." (Bogue, 1969:752) He also contends that if it were not for the problems that high fertility rates have in the world today, "it is almost certain that human migration and the plight of the migrants (especially in developing nations) would be listed as a top-priority problem for research and action." (Ibid.)

In South Dakota, concern with the declining community suggests that it should be of greater interest than the problems associated with communities experiencing growth. (Whiting, 1974:136) Economists studying migration patterns in California say that "requests for assistance in declining communities have more of a hint of emergency than do requests stemming from growth problems." (Ibid.)

The authors continue by saying, "This experience no doubt reflects (1) the greater difficulty of adjustment to change that is of a declining nature; and (2) the national consensus that growth is good and decline is bad." (Ibid.)

To assist planning departments in counties and towns, a need exists to understand migration flows in the state of South Dakota. Such information can assist governmental subdivisions in planning and developing meaningful social policies that may address the on going migration of South Dakotans within their state.

A shift of the better trained and better educated residents to other states contributes to a unique socioeconomic element in the study of migration since the "pattern of out-migration is contributing to the lowering of the overall socioeconomic composition of the population" (Ibid.). This supports Lee's paradox that the movement of people "may tend to lower the quality of population, as expressed in terms of some particular character, at both the origin and destination." (Lee, 1966:57)

There can be little doubt that migration patterns of South Dakotans are having an effect upon both the communities to which they migrate, as well as the geographic areas they leave behind. While individuals may see migration as an opportunity to improve their educational opportunities, employment and career development, and

enhance their overall living condition, it is not without an impact on both the area which they are leaving and the area to which they go.

There are numerous social problems associated with patterns of migration. The area that receives migrants must make accommodations for housing, employment, education, health services and social services, to mention a few. The area that supplies the migrant population must also make necessary adjustments to a decline in population. These adjustments may affect the tax base, the supply of labor, the re-education of individuals to maintain the social needs of the community, as well as economic adjustments in wholesale and retail businesses.

Not only will changes and shifts in population affect the size of the population, it will also affect the composition of a population. (Bogue, 1969:752) Inasmuch as migratory patterns reflect certain demographic features based on age, education and sex, it amounts to having a significant impact on those counties who supply migrants and those counties that receive them.

Migration affects the "age-sex composition of the population" thus having an impact on other demographic variables such as marital statistics for an area, as well as birth and death rates. (Thomlinson, 1965:210) "Often, too, it destroys existing social bonds and institutional ties, replacing old allegiances with membership in new churches, schools, factories and cliques." (Ibid.) Migration patterns, in the end, have an impact on every social institution in the community.

Statement of the Problem

What effects do the social, demographic and economic characteristics of a county, measured by its ability to adapt resources and maintain population, have on intrastate county-to-county, net migration in South Dakota?

Importance of the Problem

The importance of migration studies has emerged as a priority among demographers as being an area that has been neglected in both theoretical development and research (Lee, 1966; Bogue, 1969; Davis,1977; DeJong & Gardner, 1981; et. al.).

Information gleaned from such a study can assist counties in local planning and in developing public policy. It should also enable them to maintain their population base by identifying those factors that contribute to pattern maintenance.

Objective of the Study

Few attempts have been made to develop theoretical resources that would allow for an understanding of a social system's ability to maintain its population base. The theoretical focus of this paper and the object of the study will be to examine whether the social systems model as presented by Talcott Parsons can be applied to understanding the situational dynamics within a community (or county) that would (1) attract migrants to the area through economic incentives; and (2) establish a system of pattern maintenance that would retain population at the local level. Creating the theoretical model and then testing it through the use of selected variables associated with modes of adaptation and patterns of systems maintenance will be conducted using stepwise discriminant analysis. Using this

paradigm, South Dakota counties will be assigned a model type and their classification, based upon the Parsonian model, will be measured in an attempt to explain group membership by migration type.

Correlating these measurements with census data on county-to-county net migration, the model can be examined for its validity as a practical extension of the theoretical construct.

The general presentation of this study will follow with the review of the literature in Chapter 2, followed by the theoretical orientation in Chapter 3. The methodological approach will be presented in Chapter 4, with the general findings appearing in Chapter 5. The study will have the concluding remarks in Chapter 6 providing the summary and conclusions.

CHAPTER II

REVIEW OF THE LITERATURE

Literature dealing with subject areas of economics and migration and how they relate to the social order is vast and extensive. This paper will review those publications that address the goals and objectives outlined earlier.

Migration Literature

Various definitions of migration have been used to deal with the numerous problems associated with migration and its effects upon society. As a separate area of study, migration can be approached by dividing it into either (1) international migration; or (2) internal migration.

International Migration

The study of migration that involves the movement of people across international boundaries, or the "movement of people between nations" is referred to as international migration (Bogue, 1969:752). Although international migration is the most dramatic form of movement, it usually occurs in such small numbers that it does not contribute significantly to population growth among most nations. In the United States, refugee movement is an important concern

to public officials as it is to other countries experiencing population changes resulting from refugee movement.

The study of international migration is made difficult in that many smaller countries of the Third World do not maintain records of those entering and leaving their country. And, for the most part, international migration has experienced a decline in activity since the 1960's (Ibid., p. 801).

Internal Migration

Of greater impact on the social order is the relatively permanent movement of persons across political boundaries that take place within a particular country or state known as internal migration.

The numerous definitions of migration that are in existence are the result of the different perspectives and disciplines that study migration, as well as the variety of data sources that are available (Courgeau, 1976).

Using a mathematical approach, the following algorithm represents a measurement for migration:

$$P_t = P_o + B - D + IM - OM$$

where: P_t = population at the close of the interval

P_o = population at the beginning of the interval

B = number of births in the interval

D = number of deaths in the interval

IM = number of in-migrants in the interval

OM = number of out-migrants in the interval

In summary, population is the number equal to the population at the original point in time, plus or minus changes as a result of birth (fertility) and death (mortality), and changes resulting from the number of people to move into the area (in-migrants) and those who leave the area (out-migrants) (Lewis, 1982).

In a sociological sense, migration involves a change in social setting and social relationships. The system of interaction is altered through the geographic relocation of the migrant and thus migration has been defined as:

> "...the physical transition of an individual or a group from one society to another. This transition usually involves abandoning one social setting and entering another and different one."
> (Eisenstadt, 1953:1)

The factors affecting the decision to migrate are also taken into account by other scholars who concentrate on the motivating elements behind the migration process. Mangalam sees values as having a role in association with the decision to migrate:

> "Migration is a relatively permanent moving away of a collectivity, called migrants, from one geographic location to another, preceded by decision-making on the part of the migrants on the basis of a hierarchically ordered set of values or valued ends and resulting in changes in the interactional system of the migrants."
>
> (Mangalam, 1968:11)

Spengler and Myers define migration as "voluntary movement through sociocultural space" (Spengler & Myers, 1977). Their definition includes the geographic vector as people move from one area to another, but it also includes an "economic vector" as well as a "social vector".

The move must be one of some consequence. "Demographers thus define a person as a migrant if he changes his place of normal habitation for a substantial period of time, crossing a political boundary in the process" (Thomlinson, 1962:211).

By definition, there is a difference between one who moves and one who is a migrant. The former is someone who changes their place of residence while the latter is a mover who relocates in a new political unit. This distinction is made because of the demographic statistics which are available. Only when one moves into a new political unity is it reflected in demographic statistics. A person who moves within the same city or county may not be enumerated and therefore is not identified as being a migrant even

though the impact on the social setting may be just as significant.

Factors Related to Migration

Demographers experienced in studying patterns of migration agree that migration is a selective process. The elements taken into account during the decision making process are multitudinous is scope but can be identified and classified.

Economic Factors

The economists have "contributed a great to our understanding migration" (Shaw, 1975:53). The economic motive is still regarded as the strongest determinant of migration although other variables are becoming more important (Caldwell, 1970; Fielding, 1966; Elizaga, 1966). Due to differences in research methodology there is no clear consensus or agreemment on the role of the economic factor as an influence in migration (Shaw, 1975:57).

Income Differentials

Using multivariate techniques, income differential in the form of wages and salaries paid to workers is among the "most significant and consistent findings" when examining

the structural correlates of migration (Shaw, 1975:66). The proposition suggests that migration will increase as the wages at the place of destination exceed the wages at the place of origin.

This model makes some assumptions that include:

(a) that all persons desire to maximize their income;

(b) knowledge of employment opportunities is perfect;

(c) workers are homogeneous and have the same skills;

(d) there are no barriers to migration; and

(e) wages are considered in real terms.
(Shaw, 1975:67)

Unemployment

Unemployment may not be a consistent economic indicator of migration isasmuch as an area of high unemployment may experience a flow of out-migration thus reducing the number of unemployed in the location of origin. It cannot be determined whether unemployment figures are the cause of migration or the product of migration patterns, hence it is unreliable as a variable (Raimon, 1962; Okun, 1968).

It might also be added that "a number of studies indicate that levels of unemployment in places of origin (and often at the place of destination) do not account for much variation in migration rates when other variables are

included in the analysis" (Shaw, 1975:73). Support for the findings of negligible correlations between unemployment and migration rates are found in Lowry (1966), Speare, Jr. (1971) and Miller (1973).

Social Factors

Variables that involve a community's ability to hold its population base and impede the flow of out-migration would include social factors of marital status, home ownership, and family status.

Some demographers regard marriage as a factor in migration (Hollingsworth, 1970) suggesting that newly married couples are more prone to migrate within their first year of marriage.

Home ownership has been found to be associated with residential stability while persons classified as renters are thought to be more mobile (Lansing and Meuller, 1967; Deutschman, 1972).

Family status studies find an inverse relationship between the number of dependents and the individual's propensity to migrate (Hollingsworth, 1970; Long, 1973).

Social factors associated with the rate of migration have been referred to as "Location-specific capital", referring to the economic and emotional investment that

people may have to their residence in a geographic location. Studies are only recently beginning to examine the importance of this social factor and its importance on the decision to migrate or not to migrate.

Historical Review of Migration

Early studies of migration attempted to construct generalizations based upon empirical observation and although descriptive in nature, some suggest that this approach has explanatory possibilities (cf. Germaini, 1964; Bogue, 1969; Petersen, 1961; Folger, 1958, among others for early references).

Ravenstein

One of the earliest noted works on migration was the result of observations made by E.G. Ravenstein during the latter part of the 19th century. Attempting to identify consistent elements associated with the migration of population between the country and the city, Ravenstein published two papers, both entitled The Laws of Migration, in 1885 and 1889. In his works, seven principles or "laws" associated with migration were identified by Ravenstein:

1. Migration and distance
   Most migration is limited to a short distance.

the greater the distance traveled, the fewer the migrants.

2. Migration by stages
   Those persons living on the fringe of the city, move to new locations when the city experiences economic growth or expansion. New migrants move into areas vacated by those who move.

3. Streams and counterstreams.
   For every migration stream, there is a counterstream.

4. Urban-Rural differences in migration.
   Rural populations are more prone to migrate than urban populations.

5. Females move shorter distances.
   While females move shorter distances, men will move greater distances.

6. Technology and migration.
   The greater the technological development, the greater the migration in response to that development.

7. Economic motive is dominant.
   The greatest motivating factor in migrating to new areas is the desire to improve one's economic condition.

Acting as a starting point for migration studies, Ravenstein offers one of the first attempts to systematically understand the movement of people from one location to another.

Later, Max Weber, writing in his The Growth of Cities in the Nineteenth Century... (1899, 1963 ed.), presents three laws on the "nature of the migratory movement". (Weber, 1963:xxii) However, Weber draws upon the initial

contribution of Ravenstein as well as an earlier work by Von Mayr who "made the first thorough investigation in the field of internal migration in 1871..." (Ibid.).

While Ravenstein's empirical observations brought forth seven principles, other ideas found their origin in Ravenstein's earliest works.

Push - Pull

In 1938 Heberle suggested that migration is the end result of forces that encourage an individual to leave one area of residence (push) and draw them to another (pull). The dual effect of push-pull is associated with a variety of forces (Heberle, 1938).

Bogue writes:

> "Migration research beings with the premise that every departure for a new community (migratory movement) is either a response to some impelling need that the persons believes he cannot satisfy in his present residence or a flight from a situation that for some reason has become undesirable, unpleasant, or intolerable." (Bogue, 1969:753)

The "push-pull" theory of migration suggests that there is a variety of factors associated with the decision to move and that there are a combination of elements that would "push" an individual from their present locale, while other factors attract or "pull" the individual to a new geographic area.

The association of these factors in various combinations account for migration activity according to "push-pull" theorists. There are certain presuppositions behind this point of view. One is that "whenever we observe population flowing out of one particular area into others, we should suspect that some major economic or social change is taking place and that people are making an adjustment to it" (Ibid.).

Push Factors

1. Decline in a national resource or in the prices paid for it; decrased demand for a particular product or the services of a particular industry; exhaustion of mines, timber or agricultural resources.

2. Loss of employment resulting from being discharged for incompetence, for a decline in need for a particular activity, or from mechanization or automatiion of tasks previously performed by more labor intensive procedures.

3. Oppressive or repressive discriminatory treatment because of political, religious or ethnic origins or membership.

4. Alienation from a community because one no longer subscribes to prevailing beliefs, actions or mode of behavior -- either within one's family or within the community.

5. Retreat from a community because it offers few or no opportunities for personal development, employment or marriage.

6. Retreat from a community because of catastrophe -- floods, fire, drought, earthquake or epidemic.

Pull Factors

1. Superior opportunities for employment in one's occupation or opportunities to enter a preferred occupation.

2. Opportunities to earn a larger income.

3. Opportunities to obtain desired specialized education or training such as a college education.

4. Preferable environment and living conditions -- climate, housing, schools, other community facilities.

5. Dependency -- movement of other persons to whom one is related or betrothed, such as the movement of dependents with a bread-winner or migration of a bride to join her husband.

6. Line of new or different activities, environment or people, such as the cultural, intellectual or recreational activities of a large metropolis for rural and small-town residents. (Bogue, 1969:753-4)

Push-Pull Forces - Lee

Lee's contribution to a better understanding of migration deals with intervening obstacles. Four factors are involved in the decision to migrate. They are:

1. Factors associated with the area of origin.
2. Factors associated with the area of destination.
3. Intervening obstacles.
4. Personal factors.

Lee claims that there are positive and negative factors associated with the decision to migrate and the decision to stay.

While there are factors of "push" in the area of origin, and other factors of "pull" in the area of destination, Lee points out that "The balance in favor of the move must be enough to overcome the natural inertia which always exists" (Lee, 1966:51).

Lee refers to the "impedimenta" that may prohibit one from moving, "among which we must reckon children and other dependents, greatly increase the difficulties posed by intervening obstacles" (Ibid.).

Lee adds that there are "many personal factors which affect individual thresholds and facilitate or retard migration." These personal factors may be constant throughout the life of some individuals while others may associate it with stages of their life cycle.

"There are clearly stages in the life cycle in which the positive elements at origin are overwhelmingly important in limiting migration...", writes Lee (Ibid.).

As individuals enter different stages of development, suggests Lee, they have greater opportunity to migrate. In addition to education, other stages would be entrance into the labor force, marriage (or divorce), and retirement.

Economic Determinants of Migration

The literature dealing with economic determinants and migration are plentiful and attempt to develop generalizations based upon empirical evidence. Principal explanatory variables of wages and salaries (Okun, 1968; Greenwood, 1968a), employment opportunities (Blanco, 1963; Lowry, 1966), cost-benefit models (Sjaastad, 1962; Speare, 1971a), employment (Lansing and Mueller, 1967), socioeconomic status (Ritchey, 1976), and dual employment (Spitze, 1985) have all been selected for measurements of association with migration.

Intervening Opportunities - Stouffer

The hypothesis that the number of people migrating a certain distance is directly proportional to the number of economic opportunities at the place of destination and indirectly proportional to the number of intervening opportunities was set forth in 1940 by Samuel Stouffer. Various tests of this approach have been made and a high correlation between expected and observed incidences of migration have been reported (Folger, 1953; Hagerstrand, 1957; Anderson, 1955).

Economic Base Concept

A common approach to studying economic functions associated with urban population growth is the economic base concept (Weimer and Hoyt, 1939; Pfouts, ed., 1960; Blumenfeld, 1960).

The basic activities "involve those functions that relate to the processing or trading of goods or the provision of services or capital for residents or establishments located outside the urban area." (U.N. Study, 1973).

The ability of an urban area to effectively use its economic base to attract the migration of people to meet the needs of the economic system has long been noted in the historical process.

> "The principal elements of the town were those who are able by power or wealth to command a means of subsistance from else-where, a king who can tax, a landlord to whom dues are paid, a merchant who makes profits outside the town, a student who is supported by his parents. These are 'town builders'. After them come what we call the 'town fillers', those who serve the needs of the 'town builders'; the shoemaker who makes the king's shoes, the jeweller who depends on the purchases of the merchant's wife, the landlady from whom the student rents his room."
>
> (Nussbaum, 1933:32)

Ferguson (1960) suggests that the economic base hypothesis "states that residentiary employment, income and

population can be explained and predicted by reference to employment in basic activities."

Cost Benefit Analysis

The Cost-Benefit Analysis approach regards migration as an investment activity which requires a "cost" but anticipates certain benefits (Okun and Richardson, 1961).

The costs include both economic and social costs which would include leaving the home environment as well as friends and relatives. Cost is "perceived more concretely and positively than most other indices of general economic development as far as the individual migrant is concerned" (Todaro, 1969:137).

Sjastaad (1962) developed a migration model to assess the cost-benefit decision.

$$Mij = \frac{(Ydj - Yi) - T}{N(1 + r)\ j}$$

where:

Mij	=	migration from area i to j
Ydj	=	earnings in qth year at destination
Yi	=	earnings in qth year at the origin
T	=	cost of moving
N	=	number of years earnings are expected
r	=	discount rate on future earnings
j	=	earnings at destination

This model has been tested in a variety of situations which have confirmed the predictive capacity of the model (Shaw, 1974; Diehl, 1966).

Speare (1971) expanded the model to include non-economic factors including the location of the migrant's parents in the migration pattern. Using multiple regression analysis, Speare included survey information that included: cost of moving, parents of respondent living at place of destination, information on job opportunities, expected income to be higher at destination than at origin, wife's parents living at destination, unemployment level in place of origin, and home ownership at place of origin.

Speare concluded that "it should not be interpreted to mean that the cost and benefits of migration are actually calculated. In fact, our limited data suggests that people have only vague concepts of costs and benefits" (Speare, 1971:129).

Employment Opportunities

One of the most satisfactory migration models dealing with employment opportunity is that of Lowry and is presented by the equation:

$$M_{i-j} = \frac{U_i}{\overline{u_j}} \frac{W_j}{\overline{W_i}} \frac{L_i L_j}{\overline{D_{ij}}} + e_{ij}$$

where:

Mi-j	=	number of migrants from i to j
Li,Lj	=	numbers of persons in non-agricultural employment at i and j, respectively
Ui,Uj	=	unemployment as a percentage of the number in non-agricultural employment at i and j
Wi,Wj	=	hourly manufacturing wage at i and j (in dollars and cents)
Dij	=	straight line distance separating i and j
eij	=	error term

One of the criticisms of this model points out that Lowry failed to adjust the migrant population for military and educational moves (Long, 1985).

Migration from area i to area j is "expected to be positively associated with the unemployment rate at i, the wage rate at i, the size of the labor forces at i and j, and negatively associated with the unemployment rate at j, the wage rate at j, and the distance between i and j" (Long, 1985a).

Location-specific Capital

Location-specific capital (LSC) represents the total investment that individuals have in their present area of residence. While Location-specific capital was mentioned earlier as being a social factor, it has also been studied as part of the economic model. The investments that people have in a given geographic area are both quantitative and qualitative in nature. The quantitative aspects would

include equity in a home, having a job, being self employed. The qualitative aspects may include having children enrolled in school, having a good family doctor, friends and relatives in close proximity, job contacts and social relationships within the community (DaVanzo, 1985).

To consider human migration in terms of cost and return on investments, economists Schultz (1962) and Sjaastad (1962) have contributed a theoretical framework which makes that assessment. The cost of the investment in migration would include the cost of moving, the loss of income while seeking re-employment, job training and education as well as the psychic costs of homesickness. All of these factors must be weighed against the prospects of better wages and a higher standard of living at the place of destination.

Homeownership

Homeownership is one factor that may impede migration. In bad economic times, homeowners may be unable to retrieve their equity in their home due to depressed housing markets. Unable to recover their investment and transfer it into the housing market of a prospering community, they set aside prospects for moving (Long, 1985).

Additional research has supported expectations that homeowners are less likely to move than those who rent. One study by Lansing and Mueller (1967) found that of those who had not moved within the past five years, 70 percent were homeowners, compared to 30 percent who rented their residence.

Renters in New York City were found to be twice as mobile as owners (Deutschman, 1972). This occurence was found to be supported regardless of age of the head of household or the number of persons per household.

Family Status

Family status is also a factor of Location-specific Capital in that (a) those married with children migrate less than those who are married and without children; (b) child-bearing couples, age 25-44, consisting of husband and wife with school age children are 50 to 60 percent less mobile than couples with pre-school children only; and (c) school age children restrict mobility at each age of family head (Long, 1973).

Economic factors associated with migration continue to be a dominant determinant in the migration process. However, there is some indication that the economic factors

are less important although they continue to be the most significant (Beale, 1977; Zelinsky, 1977; Long, 1985).

While available studies concentrate on the larger scope of the effects of migration on cities, states and countries, a focus on migration and its effects on South Dakota is needed in order to provide for a better understanding of the migration process and its determinants. This will provide for changes in educational planning, the creation of public policy, and development in the economic sphere (Riley & Wagner, 1970).

Patterns of Migration in South Dakota

The dominant migration pattern for South Dakota since the decade 1930-1940 has been one of out-migration. Some studies have identified the "turn-around" phenomenon of the 1970-1980 period in which net out-migration for the state decline from -13.6 to -4.4 percent (Baer, 1983). It is apparent, however, that South Dakotans are mobile and find themselves moving intra-state as well as inter-state, according to U.S. Census statistics. A review of the dominant historical pattern of out-migration for the state may serve as a preface to a more delineated study of county-to-county, intra-state migration.

Since the 1930 enumeration of the Bureau of Census, South Dakota has experienced a decline in population due to net out-migration. As a result of this population loss, the state has experienced problems in its social institutions, including the family structure, schools and religious organizations, in addition to the economic stability of the state as a fiscal entity, the development of public policy programs, as well as its relationship with surrounding states and its representative strength in the United States Congress.

Out-Migration in South Dakota

The statistical pattern of out-migration for the state of South Dakota began with the 1930 census. At that time, the population of South Dakota totaled 692,847. Since the 1930 count, the state's population has been less than the 1930 census, although the 1980 statewide census now shows that it has once again nearly equalled the 1930 count with 1984 projections in excess of 700,000.

As seen in Figure 1, population growth had been consistent from the time of South Dakota's first enumeration in 1870. The population experienced a steady pattern of growth with each decade until the 1930's when severe economic depression coupled with a devastating drought drove

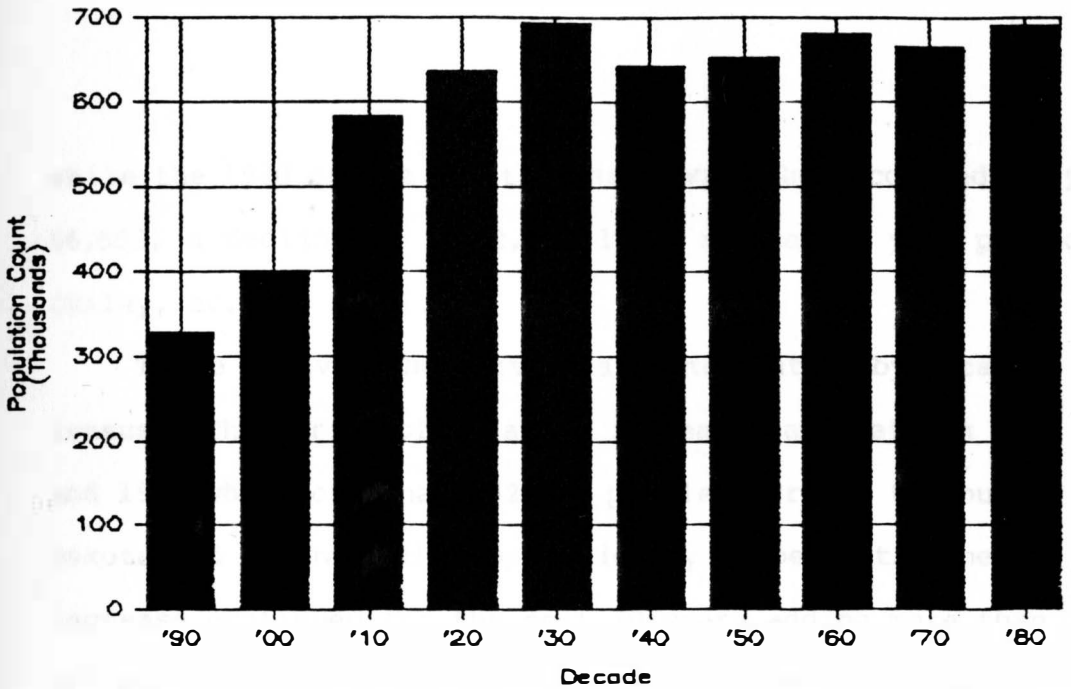

Figure 1. Population summary of South Dakota, 1890-1980. Source: U.S. Bureau of the Census

many settlers from their land in search of better economic environments (Riley & Wager, 1970).

A contributing factor in keeping South Dakota's population base below the 1930 high, was the out-migration of South Dakotans, even though an increase in births exceeded the incidence of deaths for the total population during that same period. Evidence suggests that while the rate of out-migration is declining in South Dakota, its impact on the growth of the state's population has been significant.

The state's youth have been impacted the most by the pattern of out-migration. The 1970 census data enumerated a total of 74,505 young people between the ages of 10 and 14,

while the 1980 census for that same age cohort counted only 66,553, a decline of 7,952, or 10.7% in the ten year period (Riley, et.al., 1984).

Table 1 gives the total state enumeration by decade census. The period of greatest increase came between 1900 and 1910 when more than 182,000 people migrated to South Dakota and expanded the population by 45 percent. The increase continued for the next 20 years adding more than 100,000 residents to bring the total to the 1930 high of 692,849 (Ibid.).

TABLE 1
SOUTH DAKOTA POPULATION SUMMARIES, 1890 - 1980

Year	Total	Diff.	Pct.	1930 Base
1890	328,808	---	---	--.--
1900	401,570	+72,762	+22%	--.--
1910	583,888	+182,318	+45%	--.--
1920	636,547	+52,659	+ 9%	--.--
1930	692,849	+ 56,302	+15%	100.0%
1940	642,961	- 49,888	- 7%	92.8%
1950	652,740	+ 9,779	+ 2%	94.2%
1960	680,514	+ 27,774	+ 4%	98.2%
1970	665,257	- 15,007	- 2%	96.1%
1980	690,768	+ 25,261	+ 4%	99.7%

Source: U.S. Bureau of the Census

The fourth column in Table 1 gives the percentage change over the preceding decade while column five shows the current population based upon the 1930 enumeration.

A similar decline occurred in the 1980 census for South Dakota young people ages 15 through 19. The 1970 count of 69,989 residents between the ages of 15 and 19 had dropped as an age cohort to 56,868 in the 1980 census, a decline of 18.7%, at a time when the state's overall population had increased by 3.8%. (Riley, et.al, 1984)

With the suggestion that the brightest and the best educated young people are leaving the state, areas of out-migration might be experiencing a qualitative as well as a quantitative loss.

Table 2 shows the historical pattern of net out-migration for South Dakota in numerical totals and also by percentage population of the preceding decade. While the rate of out-migration has slowed considerably, the continual pattern needs additional study in order to understand the dynamics behind such a phenomenon.

TABLE 2

SOUTH DAKOTA'S PATTERN OF NET OUT-MIGRATION

Period	Total	Percent
1930 - 1940	122,902	-17.3
1940 - 1950	79,035	-12.3
1950 - 1960	93,962	-14.3
1960 - 1970	92,560	-13.6
1970 - 1980	28,935	- 4.4

Summary to Review of the Literature

There is a vast amount of research that has been done on the topic of migration. However, there is a void in the theoretical aspect inasmuch as a cohesive orientation to understanding and predicting factors involved in migration has yet to be developed.

Early propositions about migration patterns were introduced by Ravenstein and Weber. On a more contemporary scene, Heberle and Lee introduced additional perspectives on push-pull factors associated with migration. Intervening obstacles were seen as a new factor that affected propensity to migrate by Lee, who also addresses those factors that "retard migration".

While the economic variables have been, and continue to be, the prime force behind most migration patterns, one must also consider elements of location-specific captital that provide rationale for residents to stay in a given geographic area. Having an economic base, and considering the cost-benefit analysis of migration, many people cannot identify economic advantages to justify relocation.

Finally, a review of the historical migration pattern for South Dakota supports the earlier importance of the study. With continued loss in net migration, South Dakota would benefit from additional information on the migration phenomenon.

CHAPTER III

THEORETICAL ORIENTATION

Introduction

Migration theory lacks a cohesive orientation that is able to explain all of the phenomena related to migration as an entity of demography. Although attempts have been made to present theoretical approaches to migration, they are little more than a collage of propositions based upon empirical observations.

An attempt to explain a pattern of migration behavior is acknowledged to have begun with E.G. Ravenstein who attempted to set aside several "laws" of migration in 1885. To date, several other attempts have been made to develop a systematic approach to the study of migration (Lee, 1966; Mangalam, 1968; among others). Such approaches deal with selectivity based upon age and sex (Thomas, 1958; Shryock, Jr., 1964); marital status (Taeuber, 1966; George, 1971); education (Fein, 1965; Hamilton, et. al., 1965); occupation (Blau, et.al., 1967; Stub, 1962) or career and life cycle studies (Leslie, et.al, 1961; Ladinsky, 1967).

Other approaches dealing with economic factors involved with migration have centered on wage and salary

differentials (Okun, 1968; Greenwood, 1968); employment opportunities as motivating factors affecting individual decisions (Blanco, 1963; Lowry, 1966); the development of a cost-benefit model in decision making (Sjaastad, 1962; Speare, Jr., 1971); and factor allocation (Tarver, 1965; Gallaway, 1967).

Differences in migration behavior based on the spatial aspects using distance as a variable has been developed by Morrill (1963) and Brown, et.al. (1977); while others have examined directional bias and preferences (Wolpert, 1967; Lee, 1966). Additional differences include the flow of information that is important as potential migrants learn about other opportunities (Morrill, et.al., 1967; Marble, 1963); and the intervening opportunities presenting diversions and obstacles that prevent some migrants from reaching their original objectives of which Stouffer's study is important (1960).

In spite of all of the migration studies that have been conducted in the past, there still lacks a prime theoretical explanatory framework by which one can order and classify migration behavior leaving us with collectivities of propositions on the subject.

Absence of Migration Theory

Problems with development of a theoretical approach have been noted by various scholars, some of whom suggest that a cohesive theoretical model for migration is yet to appear on the horizon.

> "[Although] the amount of empirical evidence available in the field of migration is enormous and the range and coverage of the statistical data is constantly improving... there has been only a relatively slight attempt to order the confusion with the development of theoretical propositions and models which would lend both elegance and understanding to this large and important subject." (Jackson, 1969:6)

Other observers of migration studies concur with the above notion that there is a void in the development of migration theory. Mangalam and Schwarzweller state that:

> "A sociological theory of migration which meets the stringent demands of formal theory is not likely to materialize in the near future. For, despite a long history of empirical inquiry, researchers are only beginning to do the hard work of conceptualizing of the phenomenon, systematically positing causal sequences and testing relevant hypotheses, all of which must necessarily precede a formal statement of theory." (1970:6)

The development of migration theory that is pragmatic and functional may be slow in coming to fruition. Yet, there is an abundance of research, studies, data and conclusions that exist in a fragmented state. To deal with

the theoretical fusion of existing work, this paper will utilize Ford and DeJong's model (1970) of an analytical systems approach for studying population, Everett Lee's outline for migration with a discussion on "intervening obstacles", and Talcott Parsons' theoretical approach to economic factors and their association with migration.

Current Theoretical Models in Migration

Three areas of theoretical development will be called upon to develop the overview of elements in migration theory that will be used in this paper. In combination, Ford and DeJong, Lee, and Parsons form a base of generally accepted propositions that support the direction and assumptions made in this study.

Ford and DeJong

An attempt to develop an analytical approach to demography has been made by Ford and DeJong (1970). They were concerned about the relationship of demographic and social variables, how they interacted and affected one another, and changes that raise "significant questions about cause and effect" (1970:4). Thus, there is continuing controversy as to whether or not some variables should be treated as independent or dependent variables when examining theoretical constructs.

Ford and DeJong discuss different analytical systems in the area of demography which include: (1) an aggregate system; (2) a social action system; and, (3) a social aggregate system (Ford and DeJong, 1970:6).

The aggregate system is concerned with structural traits and properties, i.e., how the system is composed and the processes that bring about internal social changes. The flow of migration, for example, would bring about changes in the age/sex composition of the population. Hence, one has to consider both the total process and its impact upon the social system.

A social action system concentrates on the social interaction of the population group (usually the family unit). The base of interaction is thought to be associated with demographic factors within the social structure.

The social aggregate systems approach concentrates on social groups that share a common trait, such as single women, farmers, those who are unemployed, or those who migrate from one geographic location to another. Ford and DeJong admit that aggregate analysis is "based on certain assumptions... about the social behavior of the aggregate members. Indeed, for social aggregate analysis to have any significance, this must be the case" (Ibid., p. 14).

For Ford and DeJong, a major system of analysis in social demography would include consideration of all three approaches as depicted in Figure 2. This approach is important to this study inasmuch as the synthesis of (1) the demographic system, (ie., migration); (2) the social action system, (ie., economic activity); and (3) the social aggregate system, (ie., social elements of family and marital status), are interrelated as factors in the paradigm. The model provided by Ford and DeJong contributes to a cohesive theoretical picture of demographic attributes used in this study.

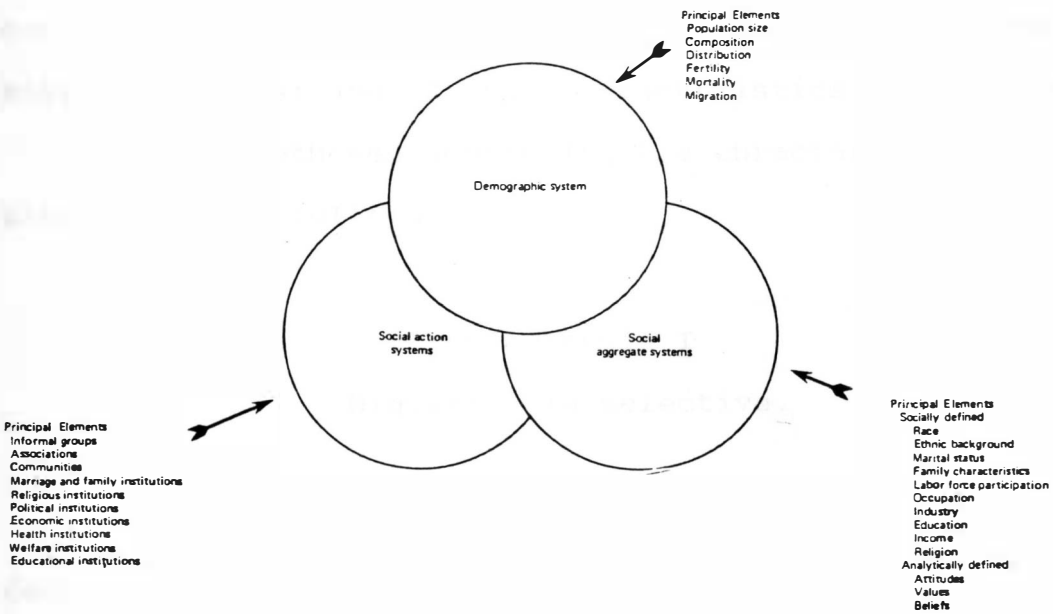

Figure 2. Major analysis systems in social demography as presented by Ford and DeJong.

Everett Lee

Everett Lee's A Theory of Migration (1966) provides a theoretical outline for migration and adds the recognition of "intervening obstacles" that contribute to a broader understanding of migration and resistance to migration. Lee suggests that there are positive and negative factors present at both the point of origin and the point of destination which determine individual acts of migration.

Lee recognizes different aspects of migration and divides his hypothetical construct into three distinct divisions: (1) the volume of migration under varying conditions; (2) the development of stream and counterstream migration flows; and (3) the characteristics of migrants.

Lee's hypotheses concerning the chracteristics of migrants is as follows:

Hypothesis I

Migration is selective.

Hypothesis II

Migrants responding primarily to plus factors at destination tend to be positively selected.

Hypothesis III

Migrants responding primarily to minus factors at origin tend to be negatively selected; or, where the minus factors are overwhelming to entire population groups, they may not be selected at all.

Hypothesis IV

Taking all migrants together, selection tends to be bimodel.

Hypothesis V

The degree of positive selection increases with the difficulty of the intervening obstacles.

Hypothesis VI

The heightened propensity to migrate at certain stages of the life cycle is important in the selection of migrants.

Hypothesis VII

The characteristics of migrants tend to be intermediate between the characteristics of the population at origin and the population at destination (Lee, 1966:56-57).

Lee's contribution to this study comes in the acknowledgement that are factors that impede migration and the decision to migrate. Utilizing the "push/pull" proposition, Lee suggests that there are positive and negative elements at both the point of origin and the point of destination. In Figure 3 elements illustrated as pull factors at the point of origin ("-") counter balance the factors that push residents from a given area ("+").

Studies generally concentrate on the factors that result in social change and migration. Lee's cognizance of elements that impede migration, however, seem just as important when considering migration phenomena. This study will make reference to the "impedia of migration" as presented by Lee.

ORIGIN AND DESTINATION FACTORS AND INTERVENING OBSTACLES IN MIGRATION

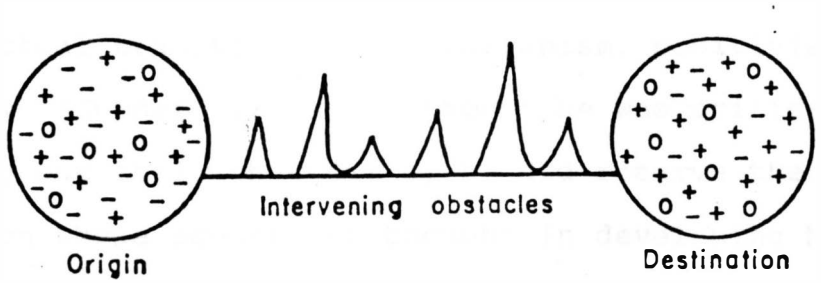

Figure 3. Lee's diagram of theoretical determinants of voluntary migration.

Ford and DeJong provide a schematic for integrating divergent yet related approaches to demography. Everett Lee contributes an acknowledgement of propositions that include factors responsible or migration and factors that retard migration flow. This study now turns to Talcott Parsons for a theoretical orientation based upon his economic sub-systems model. A review of the Parsonian theory will give us a theoretical framework and a base for understanding the economic variables associated with this study of migration.

Talcott Parsons and Structural Functionalism

In 1937, Parsons published The Structure of Social Action in which he initially criticized three dominant intellectual traditions: utilitarianism, positivism, and idealism (Turner, 1978). Although he was critical in pointing out their shortfalls, he did reserve the freedom to draw upon these schools of thought in developing his own thesis and strategy for building sociological theory. From the synthesis of ideas from utilitarianism, positivism, and idealism, Parsons developed his "voluntaristic theory of action."

Within this framework, Parsons claimed that theoretical operations must be based upon important concepts which "adequately 'grasp' aspects of the objective external

world... These concepts correspond not to concrete phenomena, but to elements in them which are analytically separable from other elements" (Parsons, 1968:730).

For Parsons, one could empirically measure the external, objective world from a multitude of phenomena and events, and then extract common elements for analysis. The notion that these concepts were grounded in diverse human and social experience and affirmed their reality was called "analytical realism."

Parsons' immediate objective was not to realign these concepts into a particular theoretical framework but to assemble them in an orderly manner that would allow one to comprehend the "real world". Different systems of concepts could be developed much like the classification systems used in the physical sciences. Propositions were to be developed based upon experience and observation. They would then be studied and ordered by their common experiential referent. From these categories, general concepts were to be made. Only after careful classification and the development of operational definitions can they be used in a theoretical framework.

For Parsons, the appropriate subject matter of sociology was social action. Social action was regarded as "voluntaristic behavior" and was based on a means/end

scheme. The trilogy involves (1) the actor; (2) the situation; and (3) the orientation of the actor to the situation (Loomis, 1967).

The Parsonian approach to social action, which takes into consideration the role of the individual in a given situation, allows for an extension into the on-going dialogue between those who argue that the migration experience is either a micro or a macro field of study. For Parsons, it is a combination of both and his theoretical orientation toward the individual as an actor in the social environment is reviewed here in recognition of that inclusion. Individual decisions to migrate may be influenced by the economic dynamics of the economic sub-system but they are also a result of the individual in a given social environment. Parsons would conclude that neither the micro nor the macro approach can present a comprehensive explanation of the migration decision and that a theoretical model is only complete when it recognizes and takes into account the interaction of both.

The Individual Actor

The actor, according to Parsons, has both a motivational and a value orientation. The former provides the energy that is spent in a given situation and consists

of (1) cognitive factors by which an individual assesses his own needs in any given situation; (2) cathetic factors through which an actor lends affective and emotional significance to the situation; and (3) evaluative factors by which he makes a determination for an expenditure of energy to the situation (Timasheff, 1967).

In relation to situations, the actor can deal with objects in a situation (non-social relationships) or with other individual actors and collectivities (social relationships).

Influenced by utilitarian scholars and behaviorists, Parsons claims that the individual actor voluntarily makes decisions although these decisions are limited by normative and situational factors. Parsons views human individuals as (1) actors; (2) goal seeking; (3) having alternative means to achieve goals; (4) confronted with situational conditions i.e., their own biological makeup, heredity, ecological restraints; (5) governed by values and norms; (6) making decisions based upon knowledge of limitations and constraints (Parsons, 1949).

Through the development of this approach, Parsons makes provisions for logical and non-logical behavior. Logical behavior is the result of decision-making based upon means/ ends cognitive thinking which is primarily "goal directed",

instrumental and utilitarian. Non-logical behavior may take place within the cathetic context and is sentimental in its orientation.

Man's individual motivation for optimum gratification in society is governed and defined by mutually accepted patterns of behavior. These patterns are structured and shared and provide the bridge between society and culture.

This approach becomes a key element in Parsons' three analytical systems: the social system, the personality system, and the cultural system. By observing social behavior, Parsons contends, one can see that there are three distinct categories for ordering concepts (Ibid.).

The Social System

For Parsons, the social system is an extension of the individual actor. It consists

> "in a plurality of individual actors interacting with each other in a situation which has at least a physical or environmental aspect, actors who are motivated in terms of a tendency to the 'optimization of gratification' and whose relations to their situations, including each other, is defined and mediated in terms of a system of culturally structured and shared symbols." (Parsons & Smelser, 1956:21)

Earlier in The Structure of Social Action, Parsons referred to society as "plurality of actors interacting with one another" (Parsons, 1949:749). This definition,

however, limited the scope of the sociological concept of society which Parsons amended in his later work, The Social System (Parsons, 1951).

It is here that Parsons describes the analytical distinctions between "social and personality systems" and cultural patterns. The notion of institutionalization is both a process and a structure for Parsons; it is the manner in which the individual internalizes cultural norms and becomes integrated into the social system (Parsons, 1951:748-9). Turner states that "as interactions become institutionalized, a 'social system' can be said to exist." (Turner, 1978:47)

The Personality System

Through the interaction with other actors in society, the individual acquires a sense of positioning, or status, among peers. As awareness of their status developes among others, they develop an awareness of their expected behavior, or role. From the value orientation which is cognitive, cathectic and evaluative, the latter assesses not only their action, but the consequences of their actions in relationship to others. This is the moral orientation of a behavioral set which is present and which governs individual acts in their social context.

Certain mechanisms assist in integrating the personality system into the social system. Two mechanisms presented by Parsons are: (1) mechanisms of socialization and, (2) mechanisms of social control (Turner, 1971:49). Society has mechanisms of socialization which are designed to bring about behavioral conformity and adequate role perfomance within the social system. "Values, beliefs, language and other symbols - are internalized into the personality system, thereby circumscribing the latter's need structure" (Ibid.).

Parsons also suggests that a social system has mechanisms of social control to "reduce strain and deviance". Institutionalization, ritual activities, safety-valve structures, reintegration structures and institutionalization with coercion or force are among the mechanisms to insure behavioral integration (Ibid.).

Problems Associated with Social Systems

Having established the premise that a social system is the product of social action, Parsons examines the problems that social systems must address in order to continue their existence. First, he acknowledges that activity generated within any given system is partially directed toward its external situation while at the same time it has activity

allocated for handling internal situations. The external/internal orientation becomes one axis in a dichotomy of social action.

Parsons also proposed that some activity within a social system is allocated along the means/ends dichotomy. That is to say, some activity is "instrumental" in developing the means toward the goal while other activity is "consummatory" in that it represents goal attainment. The means/ends dichotomy represents another dimension of social activity which, when paired with the external/internal axis, provides a basis of understanding, or categorizing social activity.

The four cells in Table 3 depict an organizational framework in which social problems of integration, cohesion and survival can be addressed. The first cell representing the "instrumental/external" category, is labeled the Adaptive Function (or Phase). It addresses the means by which a social system addresses external situations. This cell, "A", addresses economic production, the use of land and capital resources by which the social system develops the means to deal effectively with external systems. "The recruitment of labor, most often by contract, and the mobilization of capital are therefore the chief adaptive problems of a going concern" (Loomis, 1965:337).

The second cell, G, represents the goal attainment function. Social activity that consists of action related to the "ends" or objective of behavior but in the external realm of the social system would be represented here. Governmental functions dealing with aspects of power, banking and commerce, and corporate organizational activity would fall into this category.

The integrative function, abbreviated as "I", is the consummatory dimension of activity which is internal to the system. Those institutional representations of social activity would consist of the resolution of conflict,

TABLE 3
PARSONIAN MODEL FOR STRUCTURAL ORGANIZATION
OF A SOCIAL SYSTEM

		Instrumental	Consummatory	
External	A	Adaptive Function (or Phase)	Goal Attainment Function (or Phase)	G
Internal	L	Pattern Maintenance & Tension Mgmt Function (or Phase)	Integrative Function (or Phase)	I

establishing norms for competition, and defining elements of cooperation. Parsons would place political parties and "interest groups" in this cell as well as other institutional settings, such as hospitals and health care, where the stringent acceptance of status/roles are found.

On the other hand, social activity that is concerned about the internal mode, instrumental in its dimension would be that category known as Pattern Maintenance and Tension Management, "L". (Parsons referred to this element as "Latent/Receptive Meaning Integration" in his earlier works, hence the notation "L".) Concern with the development of social norms and behavior as a process, or "means" would characterize this cell. Parsons would note that churches, schools, family kinship groups, and other organizations concerned with developing patterns of socialization would fall under this division.

Parsons suggests that every social system and sub-system must address the same problems for maintenance and survival. An efficient organization must be able to properly manage each of the elements in the paradigm in order to successfully relate to other sub-systems and super-systems.

Parsons writes:

> "The problem concerns... the compatibility of the institutional patterns under which the organization operates with those of other organizations and social units, as related to the integrative exigencies of the society as a whole (or of subsystems wider than the organization in question)..." (1960:35-6)

Economic Concerns

For Parsons, the economic motive was the starting point in developing a theory of social action. The individual's desire to benefit himself and improve his lot was seen as an economic principle. But in the course of reading Weber, Parsons adopted the position that economic problems could not be solved through economics alone. Economics was a sector of society and it was to be understood in this light.

Parsons analyzes the economic sub-system by using the four-function paradigm. Consistent with his approach, the economic system can be viewed from two modes: (1) seeing the economy as a social system in and of itself which can also be broken down into other sub-systems for analysis, sometimes referred to as a vertical analysis; and (2) seeing the economy within the social structure, studying ways in which it interacts with other sub-systems in society, sometimes referred to as the horizontal analysis.

Parsons does not believe that economics should be regarded as a separate entity, "rather it is the aspect of people's activity relating to the production and distribution of goods and services necessary to the material survival and the well-being of individuals or collectivities" (Ibid., p. 79).

Within each "A,G,I,L" system, suggests Parsons, resides a sub-section of another "A,G,I,L" format. That is, within the economic system there is an entire set of problems dealing with maintenance and function. The economic sub-system in a larger social system also deals with problems of adaptation, goal attainment, integrative functions and pattern maintenance functions.

For society, the economic system must develop a base that allows it to be functional and sufficient in dealing with external systems. Goal-attainment functions deal with economic power and the ability to command honorable status with external systems.

Internally, the economic functions of pattern maintenance and tension management deal with problems of allocating employment and rewards for actors for roles that they perform in society. The integrative function constitutes the end result of society's ability to train,

place, and properly reward individual behavior in order to achieve societal goals.

The manner in which an economic system confronts this situation and adapts to external forces reflects a certain pattern variable, much like the individual actor in any given situation develops pattern variables based upon choice. "An economic organization... faces the adaptive exigencies of procurement of the factors of production: land, labor, capital, and 'organization'... Labor and capital are the most fluid of these factors" (Loomis, 1967:337). Loomis adds, "The recuitment of labor, most often by contract, and the mobilization of capital are therefore the chief adaptive problems of a going concern" (Ibid.).

The goals of society include those of being able to provide for the distribution of goods and services. Hence, a sub-system within the economy can be established to monitor these objectives. In order for a society to have a labor pool, it is necessary to develop an internal system of socialization that provides adequate motivation among individuals giving them norms with which to operate, values for goal-attainment, and social roles for establishing status in society. "Together, these physical, cultural and social psychological resources comprise what Parsons calls

the economic commitments necessary for the economy to function effectively" (Ibid., 80). This is the pattern-maintenance function of the economic paradigm.

In order for an economic model to function, however, it requires the formation of capital, the monetary vehicle which makes the model operational. The means through which the economic model adapts to meeting these needs constitutes an investment sub-system that interacts with other cells.

The distribution of finished goods and services addresses the means of production, how the goods are sold, the price structure, and the acquisition of labor (G).

To the need for organization and coordination, Parsons added the function of the administrator and entrepreneur. Such organizational activities provide an integrative function (I) for the economy (Ibid.)

Table 4, as shown below, presents the basic two-by-two grid that Parsons uses for the larger social systems model. The sub-systems model for each facet of the parent social system follows the same format for the division of function as perceived by Parsons' theoretical model.

TABLE 4
PARSONS' ECONOMIC SUB-SYSTEMS MODEL SHOWING
DIVISION OF FUNCTION BY RESPECTIVE CATEGORY

A	Capitalization and Investment Sub-System	Production sub-system including distribution and sales	G
L	Economic commitments Physical, Cultural & Motivational Resources	Organizational sub-systems: Entrepreneurial Function	I

To operationalize the Parsonian dichotomy on economics by identifying and measuring economic variables will require additional analysis of the economic system.

The economic system, like other sub-systems operating within society, must have a vertical and horizontal dimension. The vertical analysis addresses the internal structure, its organization and function. The horizontal analysis deals with problems of relating with other societies, modes of exchange, and the interaction and changes within other sub-systems (Rocher, 1975:78).

Table 5, created below, presents an expanded format with areas of concerns and priority of each cell.

For the adaptation phase, the economic system takes diverse resources from the environment, and transforms and adapts it to suit its own economic needs. In adapting resources, it may retrain, refit, or remodel to serve its own purpose.

TABLE 5
PARSONS' ECONOMIC SUB-SYSTEMS MODEL REFINED

	INSTRUMENTAL (MEANS)	CONSUMMATORY (ENDS)
EXTERNAL	CAPITAL FORMATION Investments Fixed plants & machinery labor training (education) Goal: select & procure resources needed from physical environment. Variables: Income from areas of employment; farm/non-farm income; per capita and household income	PRODUCTION SUB-SYSTEM Production & distribution of goods & services Goal: Meet consumer needs Variables: GNP, housing starts, sales tax receipts, consumer spending
INTERNAL	ECONOMIC COMMITMENTS Resources: Physical, cultural, social psychological. Link to both culture & personality Variables: home ownership, marriages/divorces, self-employment, persons per household	ORGANIZATIONAL SYSTEM Organizational Activities Factors of Production Variables: family matrix, length of residence, local investments, bond issues

The goal attainment (G) establishes actions which define the goals of the system, incorporating it into the economy in order to fill the needs of consumers and meet capital demand.

Integration (I) is the phase wherein the synthesis of economic efforts achieves its full actualization. The emphasis on internal modes is seen as the management of the economic system in fulfilling the organizational mechanism of production.

The motivational source operating internally (L) is represented by the economic commitment made by the system.

Implications for Migration Studies

The Parsonian economic sub-systems model provides a theoretical format which can be applied to studies on migration. Everett Lee had indicated in his work that there were both positive and negative elements operating in push-pull factors affecting migration. Lee acknowledges that there are many factors which "retard migration" keeping individuals in their respective communities.

The two cells of Adaptation and Pattern Maintenance (A & L) in Parsons' economic sub-system model contribute to a theoretical understanding of the social forces associated with migration. The need for a social system to exploit

external capital and labor in order to build the mechanism of producing goods and services (Adaptation) for achieving the system goals requires that it find ways to stimulate inmigration.

Parsons' economic sub-systems model addresses the societal need to exploit capital and labor outside of its boundaries as a means of fulfilling the economic needs of the social order (Adaptation). The necessity to provide social cohesion and conformity internally (Systems Maintenance) as a means of providing stability in the domestic economy is also included. Both have a bearing on migration patterns.

Four community types can be identified based upon their ability to attract migrants and maintain their population.

The Type 1 community characterized by strong adaptation and strong maintenance would represent those communities

TABLE 6
CONSTRUCT OF COMMUNITY TYPES

	ADAPTATION	MAINTENANCE
Type 1	Stong	Strong
Type 2	Strong	Weak
Type 3	Weak	Strong
Type 4	Weak	Weak

with the ability to attract economic capital and labor outside of its boundaries and retain the population base once established.

The Type 2 community would have the ability to attract migrants but be unable to retain them, being characterized as having a high rate of inmigration and a high rate of outmigration. High economic growth but a rapid turnaround of population would create social problems unique to this setting.

The Type 3 community would have a low level of economic development but a relatively stable population base. There

TABLE 7
COMMUNITY TYPES BASED UPON ADAPTATION AND MAINTENANCE AND THEORETICAL MIGRATION TYPES

MAINTENANCE	ADAPTATION: Strong	ADAPTATION: Weak
Strong	TYPE 1 High Inmigration Low Outmigration Pop: Growth	TYPE 3 Low Inmigration Low Outmigration Pop: Stable
Weak	TYPE 2 High Inmigration High Outmigration Pop: Stable	TYPE 4 Low Inmigration High Outmigration Pop: Declining

Pop: = Numerical Population, Total Numbers

would be little inmigration to this community but little outmigration. Ethnic communities would be a good example of this community type.

The Type 4 community would have little success in developing capital resources and would also find it difficult to prevent the existing population from moving away. A declining rural agricultural community in the Midwest might typify this model.

Selection of Variables Based on Theory

Adaptation

To operationalize the economic variables dealing with Adaptation it is necessary to identify economic indicators that are associated with and reflect interaction with economic systems external to the social order. Economic indicators released by the social system may provide motivation to those outside the community and begin the migration process. High wage scales, bond issues, new capital expansion among businesses may all serve as a notice to the external environment that better economic conditions exist and a better life-style awaits the migrant.

It may be noted that unemployment figures released by the Department of Labor may not be a reliable indicator of the economic climate of a given geographic area inasmuch as

some communities may export their unemployed and give a distorted view of the business and economic milieu. Thus unemployment figures are not good indicators (Long, 1985).

Maintenance

The Pattern Maintenance cell of Parsons' model requires that a social system be able to retain the population base and generate an internal sense of cohesion once the migrants arrive. The assimilation of culture and personality provides a sense of bonding as the individual becomes integrated into the social order. To operationalize the maintenance variable, one needs to examine those forces which bond the individual to the community. One approach in examining those elements that retard migration and strengthen communal ties would be Location-specific capital (LSC).

Location-specific capital (LSC) represents the total investment that individuals have in their present area of residence (Williams and MacMillan, 1979; DaVanzo and Morrison, 1978).

> "Location-specific capital is a generic term denoting any or all of the factors that "tie" a person to a particular base. It refers to both concrete and intangible assets whose value would be lost or would steadily diminish if the person moved somewhere else: for example, job seniority, an existing clientele (as

> in the case of a well-regarded doctor or carpenter), a license to practice a particular profession in a certain geographic area, property ownership, personal knowledge of the area, and community ties and close friendships." (DaVanzo, 1981:116)

Location-specific capital has been referred to by other disciplines by other names. "Vested interests", "neighbor hood or community or psychological integration", and "social and economic ties" have been used by psychologists and sociologists.

DaVanzo points out that "the amount of location-specific capital in one's current location is an important influence on the decision whether to leave that location" (DaVanzo, 1981).

This would explain why self-employed persons are less likely to move and resist the push-pull forces that have greater influence on salaried workers. "In fact, location-specific capital at origin usually is the main reason people give for not moving" (Ibid.).

There is some indication that location-specific capital is associated with the age of the individual and their propensity to migrate. The establishment of status in the community, the network of friends and contacts, increases with age as location-specific capital is established. Hence migration is more costly for the older individual when

compared to the location-specific capital of the young migrant.

The Parsonian economic sub-systems model may be used to understand a social systems' ability to interact with the external environment in order to recruit capital and labor, while at the same time provide a framework that accounts for differences in a communities ability to maintain its population base once it is established. In both the adaptation and maintenance cells of the Parsonian model, economic variables can be identified for subsequent correlation with difference in communal types.

CHAPTER IV

RESEARCH DESIGN AND METHODOLOGY

This chapter presents an overview of the research design employed in this study and the research methodology used to measure and evaluate the research data. The chapter includes a brief discussion of the unit of analysis, the dependent and independent variables, and seeks to identify antecedent and intervening variables that might affect measurements of the dependent variable.

The Unit of Analysis

For purposes of this study, the unit of analysis is the individual county located in the state of South Dakota. The county is the primary division and was selected as the unit of analysis because of its definitive boundaries as a governmental sub-system unit. The availability of secondary data on the county maintained by county governmental units, state government, and federal departments, is also available.

South Dakota has sixty-six counties that comprise the primary division of the state. The counties each maintain other governmental sub-divisions of cities, townships and

school districts. This study will nominally define "county" as that political primary division of South Dakota and will operationalize the definition of county as being those counties identified as such by the South Dakota Compiled Laws.

Dependent Variable

The dependent variable for purposes of this study shall be the construct of the theoretical Parsonian sub-systems model which addresses the patterns of adaptation and maintenance by South Dakota counties.

Nominal Definition

The nominal definition of the theoretical model shall be based upon the four classifications based upon patterns of in and out-migration for the period of 1975 to 1980 for South Dakota counties.

Operational Definition

In order to operationalize the nominal definition of the Parsonian model, data from the U.S. Census Bureau was used based upon the data files for County-to-County Net Migration in South Dakota, 1975-1980.

Patterns of out-migration were determined by creating a rank-ordering of South Dakota counties based upon census

data in the County-to-County Net Migration File for the state. Using descriptive statistics, those counties above the statistical mean were classified as high out-migration, while those counties falling below the mean were classified as having low out-migration.

Patterns of in-migration were also determined by developing a rank-ordering of South Dakota counties for the same period. Those counties above the statistical mean were classified as high in-migration while those below the mean were classified as low in-migration.

A two-way classification table was then constructed based upon the operationalized definition and the counties were divided into four county types.

Independent Variables

Independent variables are those which come first in time sequence, are related to the dependent variable and are often thought to be considered a "cause". For the purposes of this study, the independent variables will be catagorized as being adaptation and maintenance.

In the Parsonian model, adaptation and maintenance, two distinct theoretical constructs, are employed as important integral elements of a social system. Throughout this study they will be used to refer to measurements of the sub-

system's ability to perform certain functions.

Adaptation

Nominal Definition

The Parsonian economic sub-systems model, which employs the elements of adaptation, points to the necessity of a social system to interact effectively with external systems in order to exploit economic resources in both capital and labor to meet internal system needs. Some social organizations are able to handle this task successfully, reflected in their ability to accumulate capital and labor. A nominal definition of adaptation will relate to a sub-system's ability to attract capital and labor from outside its own geographic and political boundaries.

Operational Definition

The procurement of labor and human resources can be operationalized by examining migration data dealing with migration of human individuals in and out of the system.

In taking migration data for 1975 to 1980 as reported in the United States Census Bureau's County-to-County Net Migration File, one can quantify in-migrants and out-migrants on a county by county basis. To measure the ability of a South Dakota county to attract in-migrants, a

reflection of that economic sub-system's ability to interact effectively with its external environment, a cumulative table for in-migration to South Dakota's counties will be constructed using data from the migration data file.

The numerical data will then be computed using respective population data for 1970 to establish a rate of in-migration for each county. The data will be rank/ordered by county and descriptive statistics employed to find the statistical mean. Counties above the statistical mean will be labeled as counties with high in-migration, while counties below the mean will be labeled low in-migration.

Maintenance

Nominal Definition

Maintenance is the ability of a county as an economic sub-system to maintain its population base. This is reflected in data showing movement of people out of the county. This phenomenon is referred to by Parsons as systems maintenance.

Operational Definition

The systems maintenance feature will be operationalized through census data showing out migration by county.

A county may either retain its population base, through

economic assimilation of jobs, home ownership, and other factors, or it may see its population base erode as other counties compete more effectively in the adaptation mode.

A rate of out-migration by county will be determined using numerical county data and 1970 county population figures. The computed figures will then be rank/ordered by county showing the range in descending order. The statistical mean was then used to identify counties above the mean as experiencing high rates of out-migration and counties with out-migration falling below the mean will be identified as having a low rate of out-migration.

Developing the Model

In order to develop four distinct categories that would fit the typology for the Parsonian model an examination of migration patterns by county is necessary. The Parsonian model, as outlined earlier in the text, addressed the patterns of in-migration and out-migration by county. The theoretical model included migration as it pertained to adaptation, ie., the ability of a social organization to fulfill its structural needs by mainipulating and exploiting its external environment; and by its maintenance function, ie., the ability to assimilate resources into the social organization so that the resources can find a place in the

social structure thereby being maintained.

Procedure

To operationalize the theoretical model, several steps were taken to determine county membership in the proposed model.

First, an examination of population data by South Dakota county was made by looking at figures for in-migration, out-migration, and net differences in population due to migration during the period 1975 - 1980, based upon the County-to-County Net Migration data tapes.

Second, the rate of out-migration and the rate of in-migration was determined for each county in the state during the 1975-1980 time period.

Third, counties were rank/ordered by rates of in migration and rank/ordered by rates of out-migration in descending order.

Fourth, descriptive statistics on rates of in-migration and rates of out-migration were used to find the statistical mean and standard deviation for each group of data.

Fifth, counties were then assigned a classification based upon their position above and below the statistical mean for both rates of in-migration and rates of out-migration.

Developing the Technique

The technique for classification of counties by rate of in and out-migration was developed using rank/order sorts.

Rate of In-Migration

The rate of in-migration was determined by using the 1975 population estimates and migration data for 1975-1980 from the County-to-County Net Migration data tape supplied by the U.S. Census Bureau. The range of net in-migration varied from a high of 49.79 percent for Meade County to a low in-migration of 6.79 percent for Hanson County. The statistical mean was 17.5 and a standard deviation of 9.56 resulted from a computer run on the descriptive statistics. Based upon the standard deviation, 10 counties exceeded one standard deviation from the mean for having high in-migration while only one county, Hanson, fell into the lower bracket for one standard deviation from the mean.

Rate of Out-Migration

Using the 1975 population estimates as the base year, the rate of out-migration was determined by taking the totals reported by county in the County-to-County Net Migration data tape. The range of scores went from a maximum of 38.16 percent for Clay County to a minimum score of 14.52 percent for Shannon County. The mean score for the

66 counties on out-migration was 22.96 percent with a standard deviation of 5.02. Only 8 counties exceeded one standard deviation in having high out-migration with 9 counties exceeding one standard deviation on low out-migration activity.

It was decided to classify all 66 South Dakota counties on their individual rates of out and in-migration thus allowing for independent differences for population size. That is to say, Pennington County with 22,678 persons entering the county and 22,645 leaving the county during the latter part of the decade cannot be compared with Buffalo County which had 304 and 297 migrate respectively during that same period. By determining individual rate of in and out-migration, each county was adjusted for population differences.

The computer rank/ordered counties by their numerical type, and alphabetically within their category.

With counties placed in rank/order for rate of in-migration and rank/order for rate of out-migration, and using the statistical mean as the dividing point, counties were then given the value of 3 if they were high on in-migration and a value of -1 if they were below the mean. Counties ranking above the mean for out-migration were also assigned a score of 3 and for those below the mean a score

of 1 was assigned. These numbers were arbitrarily selected so that the computer could total the scores and divide counties into four categories: 6,4,2,0. County labels were then reassigned for simplicity to 4,3,2,1 respectively (see Table 8).

Meaning of County Type

Counties that have experienced relatively high levels of in-migration while at the same time experienced high levels of out-migration are classified as Type 4 counties.

Type 3 counties are those experiencing patterns above average for in-migration while having patterns of out-migration that were below the statistical mean. These counties are both able to utilize the adaptation mode to secure and attract population resources while being able to retain the migrants as reflected in the patterns of out-migration which characterized them as being below the mean for out-migration.

Type 2 counties are those with low in-migration while having rates of out-migration that is above the statistical mean. This county type would experience a population loss due to out-migration as exemplified by the rural county with little ability to attract migrants and little ability to hold its existing population base.

Type 1 counties are those with low levels of in migration and low levels of out-migration. While they are unable to use their resources for purposes of adaptation, they are able to maintain the existing population base with low out-migration from the county.

Table 8 summarizes the four county types involved in the Adaptation/Maintenance model.

TABLE 8
ADAPTATION AND MAINTENANCE BY COUNTY TYPE
BASED ON PATTERNS OF IN-MIGRATION
AND OUT-MIGRATION

	In-Migration	Out-Migration
Type 4	HI	HI
Type 3	HI	LOW
Type 2	LOW	HI
Type 1	LOW	LOW

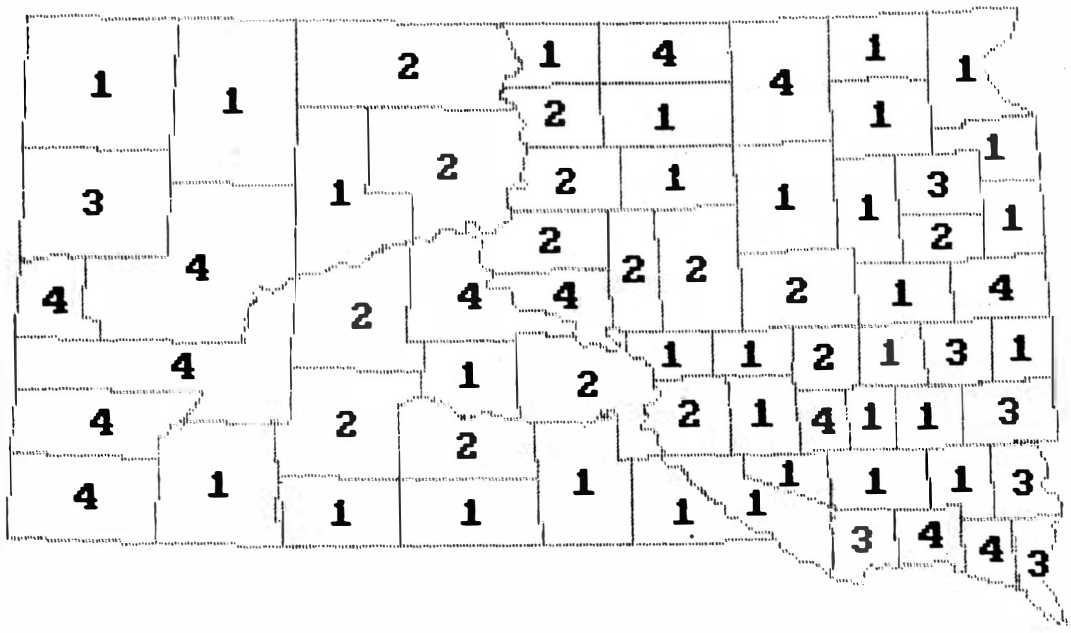

Figure 4. South Dakota counties by migration type.

The illustration shows South Dakota counties by migration type based upon their ability to attract migrants through adaptation and then maintain their population base through maintenance programs. Counties identified as "4" have a high in-migration and a high out-migration rate. Those counties with a "3" have a high in-migration with a low out-migration rate. A number "2" suggests low in-migration and relatively high out-migration, while a "1" county represents a county with low in-migration and low out-migration.

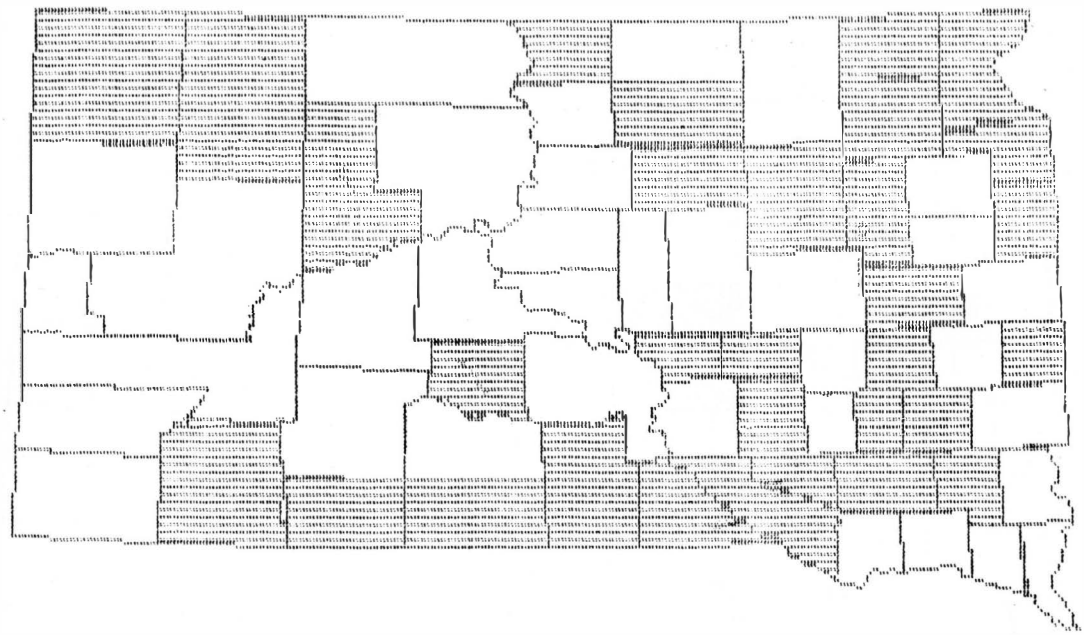

Figure 5. South Dakota counties with low in / low out-migration, classified as Type 1.

These 31 South Dakota counties were below the mean for both in-migration and out-migration, classified as Type 1. They suggest relatively few people moved to or moved out of the county although Census Bureau data may show either population increases or declines for the same period of time. These counties would be characterized as being somewhat stable: not being able to exploit the external environment and attract migrants, but being able to employ maintenance factors that hold existing population base.

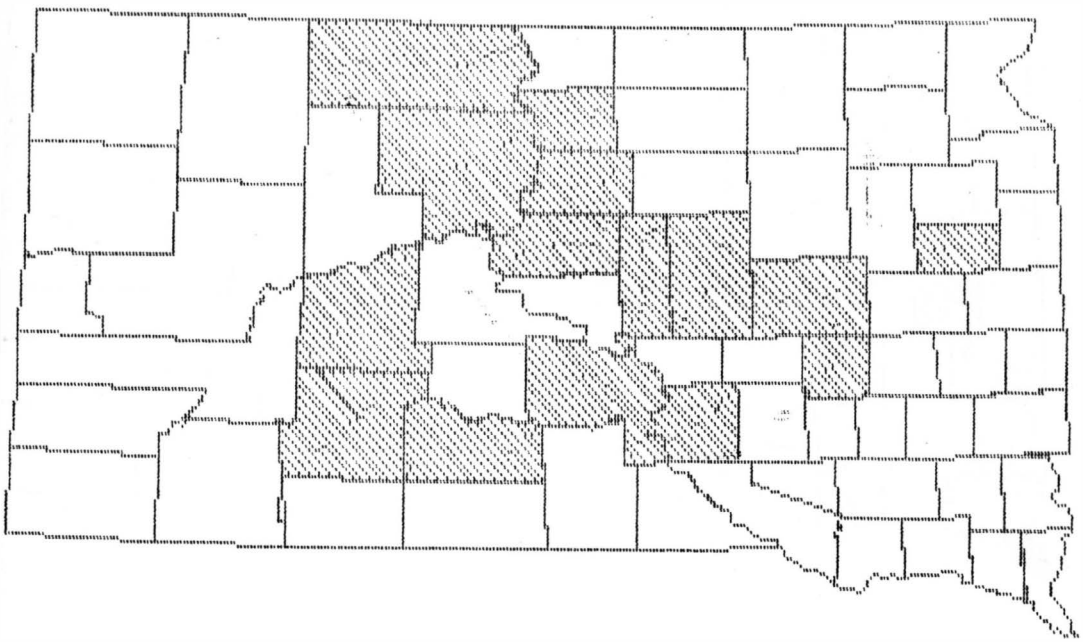

Figure 6. South Dakota counties with low in / high out-migration, classified as Type 2.

The 15 South Dakota counties ranked below the mean on in-migration and above the mean on out-migration suggests that they experienced population decline during the period under study. These counties are unable to exploit the external environment through adaptation techniques while at the same time they would be unable to provide necessary maintenance functions to keep existing population.

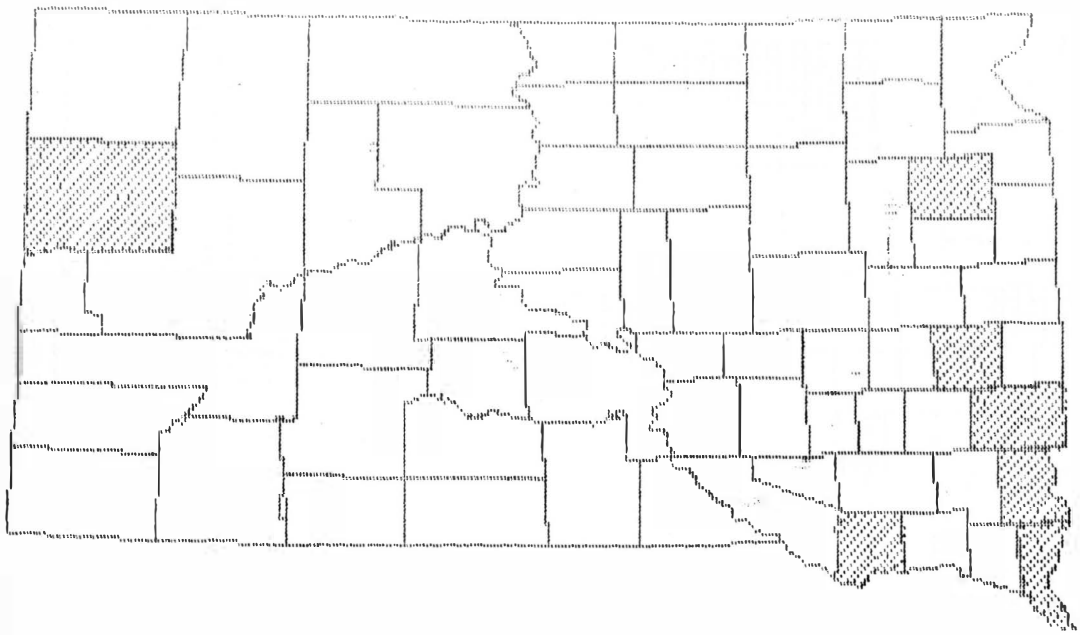

Figure 7. South Dakota counties with high in / low out-migration, classified as Type 3.

Seven South Dakota counties comprise a group above the mean on in-migration and below the state mean on out-migration. These counties are theoretically able to attract migrants and find ways to assimilate them into the community. Some counties included in this classification were quite marginal by virtue of the fact that it was only .01 of 1 percent above the statistical mean for rate of in-migration.

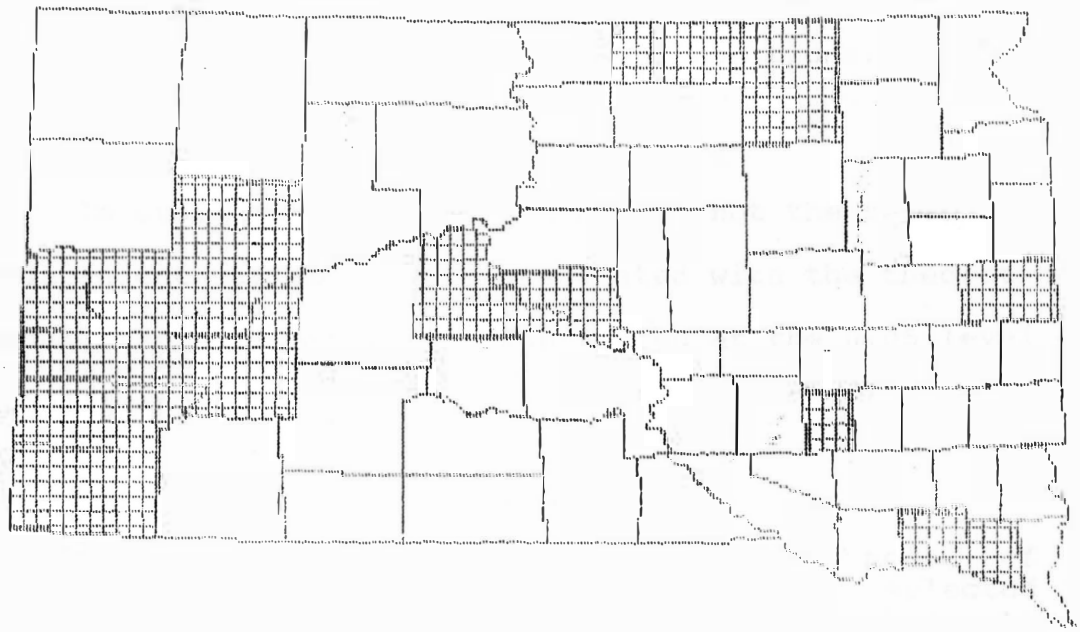

Figure 8. South Dakota counties with high in / high out-migration, classified as Type 4.

The remaining 13 South Dakota counties were above the mean in both the rate of in and out-migration. This would suggest an ability to attract migrants and an inability to hold them. Some counties might experience a population increase while others might experience a population decrease. Included within this group are counties with institutions of higher education: Clay, Brookings, Brown and Pennington. These counties are subject to having large numbers of students move to the county and then leave upon

graduation. Also, Hughes County, hosting the capitol city of Pierre, was classified as a Type 4 reflecting the turnover in political and government positions.

The Null Hypothesis

In order to determine whether or not the selected independent variables were associated with the theoretical model, the null hypothesis was tested at the 0.05 level of significance.

Hypothesis I.

> Based upon their referent to modes of adaptation and maintenance, the selected variables will not significantly contribute to differences in the Parsonian theoretical paradigm when the variables are defined as specified above.

Mode of Analysis

Having constructed the Parsonian model using South Dakota counties as the unit of analysis, it was necesssary to examine the selected variables to see whether or not their association with the four elements of the paradigm had significant relationship. This would indirectly represent the individual variable's relationship to patterns of in and out-migration, and patterns of high and low rates of migration inasmuch as the paradigm was based on those factors.

Selected variables included in the study consisted of three groups of data: (1) migration and population data (Riley & Baer); (2) variables associated with adaptation (Regional Economic Information System, Bureau of Economic Analysis); and, (3) variables associated with patterns of maintenance (U.S. Census Bureau).

Sources for data on migration was based on the following variables. (See Appendix for computer file names)

MIGRATION DATA

County Name

FIPS Code for County and State

Population 1970

Population Estimate 1975

Population 1980

Rate of In-migration 1975-1980

Rate of Out-migration 1975-1980

Net Difference In/Out-migration 1975-1980

Net Migration Based on 1975

Net Migration Based on 1970-1980

Migration Model - Assigned Type

ADAPTATION VARIABLES

County Name

Earnings in Construction 1975

Earnings in Construction 1980

Earnings in Manufacturing 1975

Earnings in Manufacturing 1980

Earnings in Retail Sales 1975

Earnings in Retail Sales 1980

Earnings in Service Industry 1975

Earnings in Service Industry 1980

Earnings in Federal Employment (Civilian) 1975

Earnings in Federal Employment (Civilian) 1980

Earnings, State & Local Government 1975

Earnings, State & Local Government 1980

Non-Farm Income 1975

Farm Income 1975

Total County Income 1975

Non-Farm Income 1980

Farm Income 1980

Total County Income 1980

Per Capita Income 1975

Per Capita Income 1980

MAINTENANCE VARIABLES

County Name

Total Number of Marriages 1975

Marriages Per 1,000 Population 1975

Total Number of Marriages 1980

Marriages Per 1,000 Population 1980

Total Number of Divorces 1975

Divorces Per 1,000 Population 1975

Total Number of Divorces 1980

Divorces Per 1,000 Population 1980

Total Housing Units 1970

Per Cent Owner Occupied Housing 1970

Per Cent Owner Occupied Housing 1980

Per Cent Renter Occupied Housing 1970

Per Cent Renter Occupied Housing 1980

Persons Per Household 1970

Persons Per Household 1980

Persons Employed with Federal Government, 1980

Employed in Government 1980

Self-Employed Workers 1980

The statistical methods used in examining the data included descriptive statistics for all independent

variables, measurements for collinearity of variables, and discriminant analysis.

Statistical Measurements

Class Distribution of the Model: The classification of each of the 66 South Dakota counties according to the parameters established above provides for the frequency of each of the four model types:

TABLE 9
DISTRIBUTION OF SOUTH DAKOTA COUNTIES
BASED UPON MODEL TYPE

MODEL TYPE	FREQUENCY	PROPORTION
1	31	0.469697
2	15	0.227273
3	7	0.106061
4	13	0.196970

Only six variables could be selected to test the model inasmuch as the degrees of freedom are limited to the frequency of the lowest cell, N-1, which occurs in Model Type 3, with a frequency of seven.

The theoretical Parsonian model was examined statistically to determine what variables in terms of adaptation and maintenance could best explain the categorical relationship of the model itself.

Descriptive Statistics

Quantitative variables were examined for their descriptive properties, including measurements of central tendency, in order to provide a statistical referent for each variable, and to be available for future reference.

Collinearity

Measurements for collinearity among variables were made to see whether there was an instrinsic relationship among the variables under study and to see which variables were collinear with other variables. Variables demonstrating collinearity with other variables were identified and omitted from the final discriminant analysis.

Stepwise Discriminant Analysis

In using a number of independent variables to measure the relationship to the dependent variable, the stepwise discriminant analysis of data selects a "subset of quantitative variables to produce a good discrimination

model using forward selection, backward elimination, and stepwise selection." (SAS, 1982b:405)

Summary

The intent of this chapter was to outline the research methodology used to test the theoretical model. Elements of the hypothesis, such as the unit of analysis, the independent and dependent variables, were presented and discussed as to how they relate to the model.

Rationale for classification of South Dakota counties into the appropriate divisions was described in detail and techniques of identifying South Dakota counties based upon migration data were completed.

Finally, a description of the statistical techniques employed for a test of the model was made.

Chapter Five will present the findings of the study, the statistical analysis of the data and the significance of those findings.

CHAPTER V

FINDINGS

This chapter presents the results and the findings of the study based upon the statistical analyses of the data. Using the research methodology set forth in the preceding chapter, descriptive statistics, tests for collinearity, stepwise discriminant analysis and discriminant analyses were used to examine the data.

Statistical Measurements

Each of the 66 South Dakota counties were classified according to criteria discussed earlier. On the basis of the position of the county both above and below the mean based on the rate of in-migration and the rate of out-migration divided the counties into four classifications.

TABLE 10
CLASSIFICATION OF SOUTH DAKOTA COUNTIES
BASED ON RATE OF IN AND OUT-MIGRATION

MODEL TYPE	FREQUENCY	PERCENT
1	31	46.9%
2	15	22.7%
3	7	10.6%
4	13	19.6%

Establishing the degrees of freedom was based upon the frequency distribution of the lowest score which appears in model type 3 with a score of seven. The degrees of freedom (N-1) would set the number of variables used to test the theoretical model at six.

In seeking to test the Parsonian model for adaptation and maintenance factors, the variables were stratified according to their association with either category.

Descriptive Statistics

The analysis of the data began with descriptive statistics of variables. Measurements of central tendency and standard deviation provided for a basic review of each variable while the descriptive statistics checked for some missing cases. Once the data file was checked for any aberrations of data and it was determined that the data files were complete, the study continued using more advanced statistical analysis.

Collinearity

A measurement of collinearity found similarities among some of the original variables.

Variables dealing with income reported high degrees of collinearity inasmuch as farm and non-farm income comprise

total income statistics by county. The variables for percent of owner-occupied housing for 1970 and 1980 and percent of renter-occupied housing for the same period also reported collinearity between variables. Here, it was noted that owners and renters are related inasmuch as together they comprise the total percent of housing units.

To reduce the propensity for high standard errors and unstable estimates when regressors are in linear combination with other regressors in the model, the relationship between the variables was noted and adjustments were made. Longitudinal differences for economic variables with data for both 1975 and 1980 was computed and used as a variable in the discriminant analysis. The rationale was to correlate statistics showing differences or change during the five year period inasmuch as migration data used to classify county migration types represented the same period of time. Among other variables that occupied the same level of measurement, such as owner-occupied and renter-occupied, one or the other was used independently in response to possible problems with collinearity.

Stepwise Discriminant Analysis

The significance level to retain or dismiss a variable was set at .99 and all 32 variables dealing with adaptation and maintenance were examined.

The results of the stepwise discriminant analysis identified six variables with an aggregate Wilks' Lambda score of 0.235.

TABLE 11
DISCRIMINANT ANALYSIS OF ALL VARIABLES
ADAPTATION AND MAINTENANCE

Step	Variable	F-Statistic	Wilks' Lambda
1	LOCAL75	11.341	0.6457
2	MAR75	9.534	0.4380
3	DIVP80	4.333	0.3601
4	FARM75	2.988	0.3126
5	PC80	3.032	0.2702
6	MANUF80	2.825	0.2352

Four of the variables above deal with variables of adaptation: (LOCAL75) earnings from state and local government, 1975; (FARM75) farm income, 1975; (PC80) per capita income, 1980; and (MANUF80) income from manufacturing, 1980. Two variables are related to variables of pattern maintenance: (MAR75) number of marriages, 1975; and (DIVP80) divorce per 1,000 population, 1980.

A second stepwise analysis was made creating new variables based upon existing data, that represented differences or changes in variables on a longitudinal basis. While the first stepwise analysis examined all raw data, it was necessary to account for the longitudinal factor extending over a five-year period to coincide with the migration data between 1975 and 1980. The following six variables were then selected by the stepwise process:

TABLE 12
DISCRIMINANT ANALYSIS OF VARIABLE DIFFERENCE
FOR THE PERIOD 1975 AND 1980

Step	Variable	F-Statistic	Wilks' Lambda
1	PPH	6.167	0.7702
2	FARM	8.371	0.5456
3	IN	4.101	0.4527
4	IND	4.282	0.3718
5	FED	4.718	0.2989
6	MANUF	2.690	0.2618

When examining data in this manner, five of the variables selected were from the adaptation category, where:

PPH = differences in persons per household, 1970 and 1980

FARM = differences in farm income, 1975 and 1980

IN = differences in individual county income, 1975 and 1980

IND = differences in income by service industry, 1975 and 1980

FED = differences in earnings from federal employment, civilian, 1975 and 1980

MANUF= differences in earnings from manufacturing, 1975 and 1980

When using stepwise regression, variables are added to a model in order to maximize the R^2 or to minimize the error sum of squares. While it is helpful in selecting variables to be included in the study, "it is of little or no value when attempting to analyze a model statistically" (Pindyck, 1981:94). The reason for this is that the t test and the F test to measure the null hypothesis operate under the assumption that the model has been correctly constructed. By first selecting variables using stepwise regression techniques, the variables selected will have more significant t scores due to the built-in bias. "As a result, the large t statistics do not allow us to reject the null hypothesis at a given level of significance" (Pindyck, 1981:94).

Discriminant Analysis

As a regression technique, discriminant analysis has the ability to be used in two ways: first, as a classification and diagnostic tool, and secondly, to "study

the relations among variables in different populations and samples" (Kerlinger, 1973:150). For purposes of this study, discriminant analysis was used to associate group membership as a dependent variable, with two or more independent characteristics (variables). By analysis of the data using the four hypothetical county migration types, independent variables for adaptation and maintenance were regressed using discriminant analysis to measure classification membership. (See Table 13.)

Reclassification of County Types

Discriminant analysis was used to re-classify South Dakota counties into migration types based upon the numeric variables selected through the stepwise discriminant analysis process. The discriminant analysis process makes these classifications based upon within-group covariance matrices taking into account the prior probabilities proportional to the groups. The process may also assign membership in groups based upon the assumption that the prior probabilities are equal classifications. Using the "least squares" method, this statistical exercise can be used as for the classification and diagnosis method.

Findings varied depending upon whether the discriminant analysis used equal or proportional categories

although the pattern was relatively consistent. Discriminant analysis on the two sets of data was run twice. The first set consisted of the six variables selected through the stepwise discriminant analysis in Group I, run once for prior proportional estimates, and a second time for prior equal estimates by class.

The discriminant analysis can either run the classification types as they occurred during the early statistical run, i.e., falling into the four categories designated above as 31, 15, 7, and 13, (prior proportional estimates); or it can provide for an analysis with the assumption that the frequency distribution of the counties should be evenly divided into the four county classifications (prior equal estimates). For purposes of comparison, a discriminant analysis was run using both estimate modes and the results of the two were compared.

The classification summary for calibration of the data on prior proportional estimates reported a more consistent classification profile than the prior equal estimates. Using prior proportional estimates for groups, the 31 counties originally assigned to Type 1 (low in/low out-migration) had all 31 counties assigned membership to Type 1 using discriminant analysis.

Type 2 counties (low in/high out-migration) were all, with the exception of one, reclassified to other Types using discriminant analysis. Thirteen of the fifteen counties were reassigned to the Type 1 category, suggesting that the variables may have stronger similarities for low in-migration and that differences relating to patterns of out-migration were not discernable. Only one of the original Type 2 counties was reassigned to Type 4.

TABLE 13
CLASSIFICATION SUMMARY FOR CALIBRATION DATA
USING PRIOR PROPORTIONAL ESTIMATES

FROM TYPE	Number of Observations Classified Into Type 1	2	3	4	TOTAL
1	31 100%	0 0.0%	0 0.0%	0 0.0%	31 100%
2	13 86.6%	1 6.6%	0 0.0%	1 6.6%	15 100%
3	0 0.0%	0 0.0%	7 100%	0 0.0%	7 100%
4	3 23.1%	0 0.0%	0 0.0%	10 76.9%	13 100%
TOTAL:	47	1	7	11	66
PERCENT:	71.2%	1.5%	10.6%	16.7%	100%

Type 3 counties (low out/high in-migration) maintained their classification as members of Type 3 when subjected to discriminant analysis. The properties of the independent variables were such that no Type 3 counties were re-assigned to other class memberships, but it should also be noted that throughout the discriminant analysis, at no point were other types in the matrix reclassified to Type 3.

The theoretical model, using the selected variables for adaptation and maintenance, when regressed with discriminant analysis affirmed the classification of counties reporting in-migration above the mean and out-migration patterns below the mean. There was no in-group reclassification and no out-group penetration on discriminant analysis.

Type 4 counties, originally assigned for being above the mean in both in-migration and out-migration, maintained the integrity of the model in 76.9% of the cases (N=10). The three counties reassigned through discriminant analysis found membership in Type 1.

Testing the Research Hypothesis

The hypothesis presented in Chapter 3 takes the form of a substantive hypothesis, a conjectural statement concerning the general relationships between social and economic

variables and the theoretical Parsonian model. As such, the substantive hypothesis is not subject to statistical tests.

It is necessary to alter the substantive hypothesis in order to operationalize it in statistical and quantitative terms. The model that constructs the paradigm of adaptation and maintenance designates four groups, each relating to in-migration and out-migration by county.

Analysis of the Theoretical Model

In this research, the theoretical model of Talcott Parsons was tested which suggests that, in order to survive, social organizations must address problems of adaptation and maintenance. The ability to attract capital and labor and the ability to maintain the social system may be reflected in the migration data. South Dakota counties were designated as the unit of analysis. Economic variables to measure adaptation, and social variables to measure maintenance were used as independent variables.

After categorizing the 66 South Dakota counties into four groups based upon their respective measurement of in-migration and out-migration for the period 1975 and 1980, a stepwise discriminant analysis was made to identify the strength of the relationship between the independent

variables and the dependent variable, vis a vis, the Parsonian model.

Using the independent variables selected in the stepwise discriminant analysis, 66% of the relationship between the dependent variable and the independent variables selected for the model was explained.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The attempt to explain and predict migration flows from areas of origin to areas of destination is without a substantial theoretical framework capable of providing a single, comprehensive explanation to the phenomenon. It may very well be that such a framework will never provide sufficient depth to account for migration at either a macro and/or a micro level. Nor will a single explanatory theory be able to account of all aspects of human motivation. This study has attempted to look at the social systems theory of Talcott Parsons, more specifically the economic sub-systems model, and operationalize it using county-to-county migration data to determine whether or not a theoretical model could be constructed based upon Parsons' understanding of a social systems.

Earlier in this work, the statement of the problem was established asking whether the social, demographic and economic characteristics of a county, measured by its ability to adapt resources and maintain population, would have an effect on intrastate, county-to-county migration in South Dakota.

The study was not an attempt to resolve the controversy involving the need for a comprehensive theory of migration. Rather it was a demonstrative approach that took a theoretical social systems model set forth by Talcott Parsons, and examined the economic sub-systems model using existing demographic data to see whether Parsons' model could be adopted for studies in migration.

Summary

Using discriminant analysis on a variety of independent variables classified as economic variables and independent variables classified as relating to family status variables, the model was tested using county-to-county migration data for South Dakota counties. Our findings concluded that the economic variables, referred to as adaptation variables, had a greater influence on the model than the variables of family status, referred to as maintenance variables. The six economic variables had a Wilk's Lambda of .2352, explaining 76.5% of the migration model. The six economic status variables had a comparative score of .2618, accounting for 73.9% of the model when measured separately.

The classification summary for the calibration of the data reported that all counties originally classified as

Type 1 counties (i.e., those counties that were relatively stable with in and out-migration both below the mean) and counties identified as Type 3 counties (ie., those counties experiencing population growth with in-migration above the mean and out-migration below the mean) had no in-group reclassification and no out-group penetration as a result of the discriminant analysis. The integrity of the model remained intact when using prior probabilities proportional to the groups.

However, there was a signficant shift in the reclassfication of Type 2 counties (ie., those counties that had out-migration above the mean and in-migration below the mean, suggesting population decline). The model suggests that based upon the variables employed in the study, there was insufficient evidence to note any difference between the Type 1 and Type 2 counties. It may be that variables used to test the model found similarities in counties with low in-migration, as exemplified in Type 1 and Type 2 counties, of sufficient significance to render it incapable of measuring differences based upon out-migration.

Other variance on the reclassification summary reported 23.1% of the counties identified as Type 4 (ie., in-migration and out-migration both above the mean, suggesting

inability to maintain a population once it is attracted to that geographical area) were reclassified as Type 1.

Conclusions and Implications

This study was an attempt to operationalize a theoretical proposition set forth by Talcott Parsons on how social systems function and interact with other external social systems. A significant aspect of the survival of a social system is contingent upon its ability to secure needed resources by exploiting the external environment (adaptation) while at the same time being able to integrate and maintain those resources internally (maintenance).

In their theoretical construct, Ford and DeJong noted that it was important to approach social demographic analysis of systems by recognizing (1) the demographic system, ie., migration; (2) the social action system, ie., economic institutions and activity; and (3) the social aggregate system, ie., the elements of family status. This study has implemented this construct in the analysis of the data and included the framework recommended by Ford and DeJong.

An additional proposition noted by Everett Lee recognized the presence of "social impedima" and stressed their inclusion into any consideration of the migration

phenomenon. Taking into consideration those things that contribute to population stability and resistance to migration was an important part of the maintenance phase of this study.

It is possible to partially explain migration activity between counties in South Dakota based upon the Parsonian economic sub-systems model when using the variables selected for this study and when conducting similar statistical analysis. The methodological approach in using a theoretical construct such as the one set forth by Talcott Parsons and testing its viability with migration data is, perhaps, an important contribution in migration theory. It suggests that the theoretical insights of Talcott Parsons, as well as other social theorists, may be able to contribute structure and meaning to the study of migration. Rather than attempt to create theoretical propositions based upon isolated areas of interest, one may look to more comprehensive social systems theory for a more integrated theoretical base.

Limitations

This study was limited in its scope inasmuch as it attempted to measure the applicability of Parsonian social systems theory using census date for one particular historical period, 1975 to 1980. Data from other periods

may alter the findings and conclusions reached in this project.

A second limitation deals with a conversion of data in order to have the computer perform the needed statistical analysis. Data for county type was entered as a continuous variable rather than a discrete variable so that the analysis could be performed. Inasmuch as discriminant analysis can be done using a dependent variable that is discrete and multivariate independent variables as continuous, it is not expected to alter the findings of the discriminant analysis.

A third limitation may be with the variables selected as independent variables for both the adaptation and maintenance modes. Other variables could be included and the scope of the study expanded. It is assumed that different variables will alter the Wilk's Lambda score.

Need for Additional Study

It is hoped that the nature of this project will serve as a catalyst for subsequent research on the Parsonian economic sub-systems model inasmuch as the findings in this study may raise more questions that it proposed to answer. The following questions may be addressed with further study:

1. What variation would result with the selection of different variables or the inclusion of additional variables to the model?

This study selected independent variables based upon reasonable assumptions and the research findings of other scholarly works. Expanding the base of variables for both adaptation and maintenance may result in findings that go beyond this study.

2. What would be the consequences of using this theoretical model on migration patterns between states?

The nature of this study confined its scope to intrastate county-to-county migration within South Dakota. The data for a larger study between the 50 states in the United States is available. This theoretical model could be tested on a wider scale and the results compared to this study.

3. What might explain the reclassification of county types to the Type 1 category?

Some 16 additional counties were reclassified into the Type 1 cell, suggesting that the original method of classifying county types, (ie., ranking them based on patterns of net in-migration and out-migration) needs to be reexamined and refined.

4. What other formulation of migration theory could be conducted based upon the methodology employed in this study?

The necessity for developing a theoretical framework in which to examine migration activity continues. Similar theoretical constructs need to be studied in order to see if there is comparable value in other social theoretical paradigms for migration and demographic analysis. The recognition that existing social theorists may provide insight and understanding into new areas of study is an important step in the quest for knowledge.

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APPENDIX

LIST OF VARIABLES WITH FILE NAMES

MIGRATION DATA

CO$	=	County Name
FIP	=	FIPS Code for County and State
POP70	=	Population 1970
POP75	=	Population Estimate 1975
POP80	=	Population 1980
MIGIN	=	Rate of In Migration 1975-1980
MIGOUT	=	Rate of Out Migration 1975-1980
NET	=	Net Difference In/Out Migration 1975-1980
RATE75	=	Net Migration Based on 1975
RATE80	=	Net Migration Based on 1970-1980
TYPE	=	Migration Model - Assigned Type

ADAPTATION VARIABLES

CO$	=	County Name
CONS75	=	Earnings in Construction 1975
CONS80	=	Earnings in Construction 1980
MANUF75	=	Earnings in Manufacturing 1975
MANUF80	=	Earnings in Manufacturing 1980
RETAIL75	=	Earnings in Retail Sales 1975
RETAIL80	=	Earnings in Retail Sales 1980

IND75	=	Earnings in Service Industry 1975
IND80	=	Earnings in Service Industry 1980
FED75	=	Earnings in Federal Employment (Civilian) 1975
FED80	=	Earnings in Federal Employment (Civilian) 1980
LOCAL75	=	Earnings, State & Local Government 1975
LOCAL80	=	Earnings, State & Local Government 1980
NFARM75	=	Non-Farm Income 1975
FARM75	=	Farm Income 1975
IN75	=	Total County Income 1975
NFARM80	=	Non=Farm Income 1980
FARM80	=	Farm Income 1980
IN80	=	Total County Income 1980
PC75	=	Per Capita Income 1975
PC80	=	Per Capita Income 1980

MAINTENANCE VARIABLES

CO$	=	County Name
MAR75	=	Total Number of Marriages 1975
MARP75	=	Marriages Per 1,000 Population 1975
MAR80	=	Total Number of Marriages 1980
MARP80	=	Marriages Per 1,000 Population 1980
DIV75	=	Total Number of Divorces 1975
DIVP75	=	Divorces Per 1,000 Population 1975

DIV80	=	Total Number of Divorces 1980
DIVP80	=	Divorces Per 1,000 Population 1980
THU70	=	Total Housing Units 1970
POOH70	=	Per Cent Owner Occupied Housing 1970
POOH80	=	Per Cent Owner Occupied Housing 1980
PROH70	=	Per Cent Renter Occupied Housing 1970
PROH80	=	Per Cent Renter Occupied Housing 1970
PPH70	=	Persons Per Household 1970
PPH80	=	Persons Per Household 1980
FE80	=	Persons Employed with Federal Government 1980
GOV80	=	Employed in Government 1980
SEW80	=	Self-Employed Workers 1980

SOUTH DAKOTA COUNTIES
RATE OF IN-MIGRATION, 1975-1980

	COUNTY	1975 RATE IN MIGRATION
1	MEADE	49.79
2	CLAY	47.16
3	CUSTER	43.98
4	BROOKINGS	37.97
5	PENNINGTON	34.41
6	LAWRENCE	33.60
7	FALL RIVER	33.55
8	HUGHES	30.90
9	STANLEY	29.68
10	LINCOLN	27.78
11	BUTTE	25.48
12	MINNEHAHA	23.60
13	YANKTON	22.96
14	UNION	22.65
15	DAVISON	21.52
16	LAKE	20.66
17	CODINGTON	19.71
18	BROWN	19.42
19	McPherson	19.37
20	BON HOMME	18.56
21	SULLY	16.95
22	BUFFALO	16.89
23	PERKINS	16.83
24	BEADLE	16.03
25	MOODY	15.96
26	HAMLIN	15.95
27	HARDING	15.78
28	HAAKON	15.70
29	JACKSON	15.29
30	MELLETTE	15.04
31	DEWEY	14.87
32	GRANT	14.66
33	TODD	14.53
34	TURNER	14.53
35	WALWORTH	14.23
36	KINGSBURY	13.51
37	DAY	13.14
38	BRULE	12.63
39	DEUEL	12.63
40	TRIPP	12.16
41	BENNETT	12.09
42	SPINK	11.93
43	CORSON	11.91

44	HAND	11.62
45	ZIEBACH	11.61
46	HYDE	11.54
47	HUTCHINSON	11.50
48	ROBERTS	11.39
49	DOUGLAS	11.25
50	AURORA	11.13
51	LYMAN	11.13
52	EDMUNDS	11.11
53	MINER	10.98
54	SHANNON	10.84
55	JERAULD	10.81
56	GREGORY	10.41
57	CLARK	10.34
58	CAMPBELL	10.24
59	JONES	10.12
60	SANBORN	10.03
61	McCook	10.03
62	CHARLES MIX	9.80
63	POTTER	8.98
64	FAULK	8.89
65	MARSHALL	8.44
66	HANSON	6.79
	MEAN =	17.50

SOUTH DAKOTA COUNTIES
RATE OF OUT-MIGRATION, 1975-1980

	COUNTY	1975 RATE OF OUT-MIGRATION
1	CLAY	38.16
2	STANLEY	35.16
3	PENNINGTON	34.36
4	MEADE	33.80
5	HUGHES	32.52
6	MELLETTE	31.48
7	BROOKINGS	31.35
8	BRULE	29.26
9	SANBORN	27.41
10	CUSTER	27.34
11	DAVISON	26.80
12	DEWEY	26.80
13	LAWRENCE	26.63
14	LYMAN	26.55
15	HAMLIN	25.73
16	BROWN	25.73
17	SULLY	24.95
18	POTTER	24.52
19	YANKTON	24.41
20	JACKSON	24.32
21	CORSON	24.31
22	McPherson	24.30
23	BEADLE	23.71
24	WALWORTH	23.48
25	HAAKON	23.33
26	FALL RIVER	23.29
27	HYDE	23.04
28	HAND	23.02
29	SPINK	22.94
30	BUTTE	22.88
31	UNION	22.75
32	TODD	22.55
33	KINGSBURY	22.51
34	DEUEL	22.50
35	LINCOLN	22.31
36	ZIEBACH	22.26
37	BON HOMME	22.06
38	TRIPP	21.53

39	EDMUNDS	21.49
40	CODINGTON	21.32
41	PERKINS	21.26
42	BENNETT	21.20
43	TURNER	21.15
44	CAMPBELL	21.00
45	MINNEHAHA	20.84
46	JERAULD	20.71
47	GRANT	20.69
48	FAULK	20.59
49	LAKE	20.07
50	ROBERTS	19.67
51	DAY	19.26
52	HARDING	18.61
53	AURORA	18.33
54	HANSON	18.13
55	MINER	18.07
56	CLARK	18.06
57	MOODY	17.99
58	HUTCHINSON	17.38
59	GREGORY	17.23
60	DOUGLAS	17.14
61	McCook	16.87
62	CHARLES MIX	16.65
63	BUFFALO	16.50
64	JONES	16.18
65	MARSHALL	14.65
66	SHANNON	14.52
	MEAN =	22.96

SOUTH DAKOTA POPULATION ESTIMATES 1975-1979

COUNTY	1975	1976	1977	1978	1979
AURORA	4,000	4,000	3,900	3,800	3,700
BEADLE	20,900	20,200	19,800	19,500	19,400
BENNETT	3,500	3,400	3,300	3,300	3,200
BON HOMME	7,800	8,000	8,100	8,200	8,200
BROOKINGS	22,700	23,100	23,200	23,300	23,900
BROWN	37,700	37,300	37,400	37,500	36,500
BRULE	5,700	5,600	5,500	5,500	5,300
BUFFALO	1,800	1,800	1,800	1,700	1,700
BUTTE	8,200	8,100	8,100	8,200	8,400
CAMPBELL	2,500	2,500	2,400	2,300	2,200
CHARLES MIX	10,200	10,100	10,100	10,000	9,900
CLARK	5,300	5,200	5,100	5,100	4,900
CLAY	13,100	13,500	13,500	13,200	13,300
CODINGTON	20,500	21,000	20,900	20,800	20,900
CORSON	5,500	5,600	5,600	5,600	5,500
CUSTER	5,000	5,100	5,400	5,500	5,600
DAVISON	18,000	18,300	18,000	17,900	17,800
DAY	8,500	8,400	8,400	8,300	8,100
DEUEL	5,600	540	5,300	5,300	5,400
DEWEY	5,400	5,300	5,200	5,100	5,000
DOUGLAS	4,400	4,300	4,300	4,300	4,300
EDMUNDS	5,700	5,700	5,500	5,500	5,300
FALL RIVER	7,700	7,900	8,400	8,300	8,200
FAULK	3,700	3,600	3,500	3,400	3,400
GRANT	9,400	9,000	9,000	9,200	8,900
GREGORY	6,400	6,200	6,000	5,900	6,000
HAAKON	2,700	2,800	2,800	2,700	2,700
HAMLIN	5,500	5,500	5,400	5,300	5,400
HAND	5,300	5,300	5,200	5,100	4,900
HANSON	3,800	3,600	3,500	3,500	3,400
HARDING	1,800	1,700	1,800	1,700	1,600
HUGHES	13,200	13,600	14,200	14,400	14,200
HUTCHINSON	9,800	9,700	9,500	9,300	9,200
HYDE	2,400	2,300	2,300	2,200	2,200
JACKSON	3,400	3,500	3,400	3,500	3,400
JERAULD	3,100	3,000	3,000	3,000	3,000
JONES	1,700	1,600	1,600	1,600	1,500
KINGSBURY	7,000	7,000	7,000	6,800	6,700
LAKE	10,600	10,700	10,600	10,600	10,500
LAWRENCE	16,900	17,200	17,200	17,400	17,800

SOUTH DAKOTA POPULATION ESTIMATES 1975-1979

COUNTY	1975	1976	1977	1978	1979
LINCOLN	12,000	12,200	12,500	12,900	13,100
LYMAN	4,000	4,000	3,900	3,900	3,800
McCook	6,800	6,700	6,700	6,600	6,500
McPherson	4,600	4,400	4,300	4,300	4,200
MARSHALL	5,700	5,800	5,600	5,700	5,500
MEADE	18,800	19,300	20,000	20,600	21,100
MELLETTE	2,300	2,200	2,200	2,200	2,200
MINER	4,100	4,000	4,000	3,800	3,700
MINNEHAHA	100,900	102,800	104,500	105,100	106,800
MOODY	7,100	7,000	6,900	6,700	6,600
PENNINGTON	65,900	69,300	71,200	72,700	73,300
PERKINS	4,700	4,800	4,700	4,700	4,700
POTTER	4,200	4,200	4,000	3,800	3,700
ROBERTS	11,900	11,700	11,400	11,400	11,100
SANBORN	3,400	3,500	3,500	3,400	3,400
SHANNON	10,600	10,100	10,400	10,700	11,200
SPINK	10,000	9,800	9,700	9,400	9,300
STANLEY	2,500	2,600	2,500	2,500	2,400
SULLY	2,100	2,100	2,100	2,000	1,900
TODD	7,400	7,300	7,500	7,600	7,600
TRIPP	7,900	7,800	7,600	7,600	7,400
TURNER	9,300	9,300	9,200	9,000	8,900
UNION	10,300	10,500	10,700	10,600	10,700
WALWORTH	7,900	8,000	7,800	7,500	7,400
YANKTON	18,600	18,800	18,800	18,900	18,800
ZIEBACH	2,300	2,300	2,200	2,200	2,200

SOUTH DAKOTA POPULATION ESTIMATES 1980-1983

COUNTY	1980	1981	1982	1983
AURORA	3,600	3,626	3,550	3,540
BEADLE	19,100	19,173	19,002	18,678
BENNETT	3,200	3,017	3,084	3,181
BON HOMME	8,000	7,786	7,706	7,725
BROOKINGS	24,500	24,723	24,844	24,850
BROWN	36,900	37,323	37,365	36,792
BRULE	5,200	5,182	5,318	5,384
BUFFALO	1,800	1,781	1,618	1,679
BUTTE	8,400	8,429	8,374	8,271
CAMPBELL	2,200	2,155	2,236	2,241
CHARLES MIX	9,600	9,594	9,656	9,617
CLARK	4,900	4,752	4,758	4,952
CLAY	13,100	13,689	13,638	13,712
CODINGTON	20,900	21,111	21,745	21,854
CORSON	5,100	5,538	5,438	5,300
CUSTER	6,100	6,093	6,235	6,356
DAVISON	17,800	17,738	17,585	17,729
DAY	8,100	8,044	8,016	7,985
DEUEL	5,300	5,268	5,330	5,224
DEWEY	5,400	5,394	5,228	5,412
DOUGLAS	4,200	4,048	3,981	3,993
EDMUNDS	5,100	4,980	4,900	4,926
FALL RIVER	8,400	8,096	7,903	7,978
FAULK	3,300	3,339	3,337	3,253
GRANT	9,000	8,852	9,212	9,427
GREGORY	6,000	5,986	5,852	5,919
HAAKON	2,800	2,708	2,790	2,826
HAMLIN	5,300	5,250	5,223	5,235
HAND	4,900	4,852	4,787	4,783
HANSON	3,400	3,460	3,434	3,343
HARDING	1,700	1,629	1,656	1,733
HUGHES	14,200	14,473	14,489	14,508
HUTCHINSON	9,300	9,262	9,337	9,148
HYDE	2,000	1,983	1,915	1,995
JACKSON	3,400	3,222	3,194	3,353
JERAULD	2,900	2,886	2,912	2,801
JONES	1,400	1,476	1,438	1,466
KINGSBURY	6,700	6,654	6,715	6,553
LAKE	10,700	10,669	10,864	10,807
LAWRENCE	18,500	18,497	18,699	18,924

SOUTH DAKOTA POPULATION ESTIMATES 1980-1983

COUNTY	1980	1981	1982	1983
LINCOLN	14,100	13,655	13,799	14,000
LYMAN	3,900	3,798	3,789	3,824
McCOOK	6,400	6,175	6,303	6,257
McPHERSON	4,000	3,925	3,977	3,877
MARSHALL	5,600	5,595	5,448	5,291
MEADE	20,700	21,056	21,027	21,194
MELLETTE	2,300	2,200	2,201	2,275
MINER	3,700	3,717	3,598	3,616
MINNEHAHA	110,000	100,526	112,260	114,825
MOODY	6,700	6,709	6,852	6,871
PENNINGTON	69,700	71,131	73,329	73,692
PERKINS	4,700	5,024	4,462	4,624
POTTER	3,600	3,772	3,793	3,709
ROBERTS	10,800	10,862	11,008	10,929
SANBORN	3,200	3,206	3,246	3,102
SHANNON	11,400	11,747	10,910	11,072
SPINK	9,200	9,057	9,241	9,096
STANLEY	2,500	2,488	2,320	2,427
SULLY	2,000	1,958	1,914	1,856
TODD	7,300	7,135	6,871	7,237
TRIPP	7,200	6,963	6,864	7,234
TURNER	9,300	8,992	9,062	9,185
UNION	11,000	11,083	10,853	10,769
WALWORTH	6,900	6,879	6,788	6,851
YANKTON	18,900	19,019	18,964	19,057
ZIEBACH	2,300	2,215	2,151	2,381

SOUTH DAKOTA COUNTIES

PATTERNS OF NET MIGRATION 1975-1980

COUNTY	NUMBER IN MIGRANTS	NUMBER OUT MIGRANTS	NET GAIN/ LOSS	RATE IN MIGRATION	RATE OUT MIGRATION
AURORA	445	733	-288	11.13	18.33
BEADLE	3350	4956	-1606	16.03	23.71
BENNETT	423	742	-319	12.09	21.20
BON HOMME	1448	1721	-273	18.56	22.06
BROOKINGS	8619	7117	1502	37.97	31.35
BROWN	7320	9699	-2379	19.42	25.73
BRULE	720	1668	-948	12.63	29.26
BUFFALO	304	297	7	16.89	16.50
BUTTE	2089	1876	213	25.48	22.88
CAMPBELL	256	525	-269	10.24	21.00
CHARLES MI	1000	1698	-698	9.80	16.65
CLARK	548	957	-409	10.34	18.06
CLAY	6178	4999	1179	47.16	38.16
CODINGTON	4040	4370	-330	19.71	21.32
CORSON	655	1337	-682	11.91	24.31
CUSTER	2199	1367	832	43.98	27.34
DAVISON	3874	4824	-950	21.52	26.80
DAY	1117	1637	-520	13.14	19.26
DEUEL	707	1260	-553	12.63	22.50
DEWEY	803	1447	-644	14.87	26.80
DOUGLAS	495	754	-259	11.25	17.14
EDMUNDS	633	1225	-592	11.11	21.49
FALL RIVER	2583	1793	790	33.55	23.29
FAULK	329	762	-433	8.89	20.59
GRANT	1378	1945	1945	14.66	20.69
GREGORY	666	1103	-437	10.41	17.23
HAAKON	424	630	-206	15.70	23.33
HAMLIN	877	1415	-538	15.95	25.73
HAND	616	1220	-604	11.62	23.02
HANSON	258	689	-431	6.79	18.13
HARDING	284	335	-51	15.78	18.61
HUGHES	4079	4293	-214	30.90	32.52
HUTCHINSON	1127	1703	-576	11.50	17.38
HYDE	277	553	-276	11.54	23.04
JACKSON	520	827	-307	15.29	24.32
JERAULD	335	642	-307	10.81	20.71
JONES	172	275	-103	10.12	16.18

SOUTH DAKOTA COUNTIES

PATTERNS OF NET MIGRATION 1975-1980

COUNTY	NUMBER IN MIGRANTS	NUMBER OUT MIGRANTS	NET GAIN/ LOSS	RATE IN MIGRATION	RATE OUT MIGRATION
KINGSBURY	946	1576	-630	13.51	22.51
LAKE	2190	2127	63	20.66	20.07
LAWRENCE	5678	4500	1178	33.60	26.63
LINCOLN	3333	2677	656	27.78	22.31
LYMAN	445	1062	-617	11.13	26.55
McCOOK	682	1147	-465	10.03	16.87
McPHERSON	891	1118	-227	19.37	24.30
MARSHALL	481	835	-354	8.44	14.65
MEADE	9360	6355	3005	49.79	33.80
MELLETTE	346	724	-378	15.04	31.48
MINER	450	741	-291	10.98	18.07
MINNEHAHA	23809	21024	2785	23.60	20.84
MOODY	1133	1277	-144	15.96	17.99
PENNINGTON	22678	22645	33	34.41	34.36
PERKINS	791	999	-208	16.83	21.26
POTTER	377	1030	-653	8.98	24.52
ROBERTS	1355	2341	-986	11.39	19.67
SANBORN	341	932	-591	10.03	27.41
SHANNON	1149	1539	-390	10.84	14.52
SPINK	1193	2294	1945	11.93	22.94
STANLEY	742	879	-137	29.68	35.16
SULLY	356	524	-168	16.95	24.95
TODD	1075	1669	-594	14.53	22.55
TRIPP	961	1701	-740	12.16	21.53
TURNER	1351	1967	-616	14.53	21.15
UNION	2333	2343	-10	22.65	22.75
WALWORTH	1124	1855	-731	14.23	23.48
YANKTON	4270	4540	-270	22.96	24.41
ZIEBACH	267	512	-245	11.61	22.26

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000,000)

COUNTY	EARNINGS IN CONSTRUCTION 1975	1980	EARNINGS IN MANUFACTURING 1975	1980
AURORA	175	245	99	155
BEADLE	4,337	7,517	11,615	622,662
BENNETT	564	733	210	335
BON HOMME	955	2,781	855	2,926
BROOKINGS	4,634	6,871	7,798	20,069
BROWN	10,039	11,996	14,326	38,414
BRULE	550	2,124	371	589
BUFFALO	0	0	1	1
BUTTE	1,502	2,312	863	700
CAMPBELL	0	0	264	800
CHARLES MIX	2,150	1,940	231	1,423
CLARK	879	839	784	1,278
CLAY	1,937	2,737	1,867	3,043
CODINGTON	6,791	9,943	9,338	22,398
CORSON	1,115	812	1	1
CUSTER	1	1,600	1,991	2,596
DAVISON	3,258	7,076	7,318	10,413
DAY	798	1,571	615	2,597
DEUEL	649	1,136	257	573
DEWEY	0	0	0	227
DOUGLAS	381	914	392	954
EDMUNDS	572	1,336	228	383
FALL RIVER	904	1,833	748	1,084
FAULK	550	0	1	0
GRANT	5,619	0	5,147	0
GREGORY	537	691	455	852
HAAKON	769	0	637	1,857
HAMLIN	1,598	1,379	735	1,199
HAND	809	0	554	824
HANSON	293	367	70	178
HARDING	602	0	0	1
HUGHES	3,899	5,554	1,397	2,067
HUTCHINSON	644	1,424	2,230	3,125
HYDE	217	408	1	55
JACKSON	433	592	53	108

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	EARNINGS IN CONSTRUCTION 1975	1980	EARNINGS IN MANUFACTURING 1975	1980
JERAULD	275	506	129	1
JONES	239	403	1	50
KINGSBURY	1,651	1,374	704	2,623
LAKE	1,321	2,171	3,562	6,253
LAWRENCE	3,061	4,563	3,823	5,350
LINCOLN	1,562	0	2,294	7,419
LYMAN	1,119	1,543	203	155
McCOOK	282	277	20,004	2,981
McPHERSON	463	686	231	167
MARSHALL	815	787	804	2,293
MEADE	2,066	3,025	1,233	2,454
MELLETTE	600	365	0	0
MINER	487	515	163	480
MINNEHAHA	32,331	56,417	77,472	157,478
MOODY	553	697	343	592
PENNINGTON	26,128	40,745	23,300	39,660
PERKINS	612	1,074	443	588
POTTER	1,124	1,570	324	594
ROBERTS	971	3,374	896	1,250
SANBORN	306	264	813	952
SHANNON	513	970	545	855
SPINK	1,106	1,594	211	498
STANLEY	961	1,484	0	0
SULLY	302	377	1	1
TODD	358	787	576	170
TRIPP	865	1,599	243	305
TURNER	1,807	2,650	791	1,231
UNION	912	1,926	5,493	12,696
WALWORTH	1,540	1,793	245	679
YANKTON	3,609	7,385	13,734	22,796
ZIEBACH	1,166	505	0	268

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	EARNINGS RETAIL TRADE 1975	1980	EARNINGS SERVICES 1975	1980
AURORA	810	799	811	1,685
BEADLE	9,403	13,636	11,004	17,294
BENNETT	1,311	1,568	496	1,056
BON HOMME	2,186	2,529	2,140	3,038
BROOKINGS	7,309	13,992	6,357	12,435
BROWN	20,350	29,506	24,173	44,675
BRULE	2,901	4,053	3,286	5,449
BUFFALO	167	268	0	0
BUTTE	3,663	5,984	2,761	0
CAMPBELL	388	436	0	0
CHARLES MIX	2,874	3,478	3,924	7,058
CLARK	1,281	1,581	785	1,362
CLAY	3,638	5,105	3,773	6,869
CODINGTON	11,158	16,505	10,520	18,356
CORSON	803	751	1,166	2,132
CUSTER	1,309	1,945	1,569	2,756
DAVISON	14,887	19,295	12,947	22,376
DAY	1,939	2,429	1,886	0
DEUEL	1,389	1,603	1,060	1,887
DEWEY	1,209	1,465	0	0
DOUGLAS	663	830	1,077	1,629
EDMUNDS	1,391	1,548	1,029	1,607
FALL RIVER	2,633	4,427	2,367	4,218
FAULK	832	927	644	1,140
GRANT	2,983	4,204	3,150	5,384
GREGORY	2,213	2,704	2,072	3,404
HAAKON	1,427	1,675	750	1,360
HAMLIN	1,120	1,463	804	1,814
HAND	1,276	2,096	1,782	3,416
HANSON	1,761	676	134	443
HARDING	264	388	0	0
HUGHES	6,865	9,755	9,894	20,098
HUTCHINSON	2,541	3,373	3,209	4,941
HYDE	597	834	669	1,364
JACKSON	1,243	1,421	837	235
JERAULD	703	909	1,029	1,660

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	EARNINGS RETAIL TRADE 1975	1980	EARNINGS SERVICES 1975	1980
JONES	1,264	1,552	264	509
KINGSBURY	1,797	2,038	2,223	3,408
LAKE	3,781	5,570	4,369	7,219
LAWRENCE	6,566	10,801	0	10,545
LINCOLN	3,263	3,974	3,466	5,767
LYMAN	1,426	1,712	1,084	0
McCook	1,687	2,249	1,891	3,521
McPherson	1,404	1,143	1,152	2,061
MARSHALL	1,943	2,342	1,502	2,480
MEADE	3,512	5,003	3,677	6,221
MELLETTE	194	215	236	353
MINER	1,081	1,239	1,189	2,073
MINNEHAHA	62,215	100,835	83,518	172,361
MOODY	1,540	1,914	1,405	0
PENNINGTON	39,223	65,883	44,135	87,587
PERKINS	1,775	2,242	1,249	2,507
POTTER	1,470	2,163	2,010	3,427
ROBERTS	3,205	4,021	4,277	7,412
SANBORN	600	650	0	0
SHANNON	480	747	6,151	10,707
SPINK	2,578	3,374	1,728	3,085
STANLEY	777	1,216	720	0
SULLY	734	1,011	256	638
TODD	1,213	1,470	7,238	9,451
TRIPP	3,591	4,479	3,112	0
TURNER	2,405	2,693	2,620	4,435
UNION	2,686	3,236	2,713	4,680
WALWORTH	3,451	4,919	3,991	6,533
YANKTON	11,591	18,681	13,393	22,968
ZIEBACH	262	298	108	354

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	FEDERAL GOV'T CIVILIAN 1975	FEDERAL GOV'T CIVILIAN 1980	GOVERNMENT STATE & LOCAL 1975	GOVERNMENT STATE & LOCAL 1980
AURORA	296	407	1,668	2,319
BEADLE	8,396	10,332	6,735	10,161
BENNETT	316	499	1,283	1,887
BON HOMME	413	573	2,662	6,153
BROOKINGS	2,037	2,587	24,555	39,865
BROWN	9,260	13,013	15,753	25,116
BRULE	681	1,178	2,026	2,965
BUFFALO	1,765	2,170	197	183
BUTTE	533	667	2,391	3,577
CAMPBELL	274	300	759	920
CHARLES MIX	2,511	3,667	3,002	4,743
CLARK	508	593	1,412	1,995
CLAY	809	877	18,034	25,764
CODINGTON	4,238	4,088	7,329	11,862
CORSON	425	623	1,512	2,209
CUSTER	1,843	3,158	2,786	4,851
DAVISON	1,969	2,481	6,378	9,799
DAY	865	1,211	3,088	4,664
DEUEL	475	545	1,340	1,739
DEWEY	3,747	5,183	1,698	2,204
DOUGLAS	505	428	1,207	1,677
EDMUNDS	422	587	1,677	2,558
FALL RIVER	7,420	11,979	3,100	5,052
FAULK	485	650	1,530	2,043
GRANT	684	814	2,360	3,639
GREGORY	522	691	1,963	2,659
HAAKON	363	231	1,124	1,476
HAMLIN	489	516	1,797	2,401
HAND	331	465	1,791	2,858
HANSON	286	283	837	783
HARDING	238	289	700	920
HUGHES	5,000	6,649	22,657	39,038
HUTCHINSON	624	871	2,625	3,490
HYDE	118	187	770	973

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	FEDERAL GOV'T CIVILIAN 1975	1980	GOVERNMENT STATE & LOCAL 1975	1980
JACKSON	378	898	877	1,182
JERAULD	296	333	1,073	1,460
JONES	203	232	790	953
KINGSBURY	628	1,037	2,223	2,954
LAKE	744	1,138	3,400	6,793
LAWRENCE	2,215	3,439	7,628	12,211
LINCOLN	561	712	3,046	5,046
LYMAN	864	1,440	1,056	1,656
McCook	507	679	1,957	2,339
McPherson	297	369	1,305	1,760
MARSHALL	391	529	1,979	2,920
MEADE	9,326	13,763	4,559	7,257
MELLETTE	196	234	822	1,157
MINER	377	417	1,233	1,732
MINNEHAHA	31,090	38,879	33,036	55,734
MOODY	2,066	2,697	1,770	2,679
PENNINGTON	18,003	28,011	28,792	49,059
PERKINS	436	636	1,675	2,485
POTTER	544	939	1,350	1,864
ROBERTS	1,876	2,649	3,730	5,140
SANBORN	344	437	1,021	1,484
SHANNON	6,001	9,761	1,676	2,896
SPINK	876	1,083	6,688	11,134
STANLEY	67	96	1,771	3,403
SULLY	249	262	1,032	1,516
TODD	3,244	4,231	2,518	3,847
TRIPP	672	722	2,558	4,040
TURNER	632	734	2,355	3,746
UNION	535	755	2,886	4,215
WALWORTH	632	926	2,607	3,595
YANKTON	1,251	1,802	12,686	14,972
ZIEBACH	140	216	549	679

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	NON-FARM INCOME 1975	NON-FARM INCOME 1980
AURORA	10,996	18,329
BEADLE	95,655	157,294
BENNETT	10,227	15,663
BON HOMME	28,552	49,677
BROOKINGS	91,617	164,666
BROWN	185,697	305,882
BRULE	21,310	36,377
BUFFALO	4,965	7,241
BUTTE	31,474	54,387
CAMPBELL	7,289	11,855
CHARLES MIX	33,158	52,678
CLARK	18,380	27,653
CLAY	53,220	83,639
CODINGTON	95,085	158,014
CORSON	13,138	20,050
CUSTER	20,736	40,710
DAVISON	86,238	135,520
DAY	29,537	47,916
DEUEL	15,954	26,802
DEWEY	16,613	29,176
DOUGLAS	12,758	19,976
EDMUNDS	17,585	28,146
FALL RIVER	36,097	61,081
FAULK	12,394	18,867
GRANT	38,836	61,592
GREGORY	22,580	34,153
HAAKON	11,990	17,230
HAMLIN	19,040	28,603
HAND	18,547	30,368
HANSON	10,975	16,701
HARDING	6,244	11,140
HUGHES	73,250	123,648
HUTCHINSON	35,149	54,203
HYDE	7,894	12,558

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	NON-FARM INCOME 1975	NON-FARM INCOME 1980
JACKSON	8,758	13,013
JERAULD	10,165	16,119
JONES	6,284	9,308
KINGSBURY	27,877	43,914
LAKE	44,670	71,917
LAWRENCE	80,460	141,533
LINCOLN	49,422	102,053
LYMAN	14,043	21,672
McCook	23,920	37,405
McPherson	13,591	21,004
MARSHALL	21,513	31,588
MEADE	85,178	142,766
MELLETTE	6,759	10,203
MINER	13,722	19,486
MINNEHAHA	578,648	1,020,199
MOODY	22,967	37,202
PENNINGTON	349,153	593,535
PERKINS	18,411	29,918
POTTER	17,029	25,621
ROBERTS	36,430	55,839
SANBORN	11,393	17,657
SHANNON	18,992	32,423
SPINK	36,454	57,664
STANLEY	10,382	17,083
SULLY	7,815	12,243
TODD	20,109	28,964
TRIPP	30,292	46,083
TURNER	34,315	57,239
UNION	45,493	79,936
WALWORTH	31,589	50,904
YANKTON	85,708	140,829
ZIEBACH	5,084	8,679

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	FARM INCOME 1975	FARM INCOME 1980
AURORA	5,251	5,094
BEADLE	10,677	11,226
BENNETT	1,903	3,203
BON HOMME	9,177	8,651
BROOKINGS	16,957	2,932
BROWN	21,734	11,874
BRULE	5,510	5,893
BUFFALO	1,040	3,303
BUTTE	4,275	9,691
CAMPBELL	7,479	5,245
CHARLES MIX	12,641	7,673
CLARK	8,221	3,275
CLAY	9,888	7,797
CODINGTON	6,493	1,853
CORSON	5,950	9,175
CUSTER	98	2,316
DAVISON	6,125	7,153
DAY	5,978	6,619
DEUEL	8,050	4,832
DEWEY	1,762	7,415
DOUGLAS	7,673	5,412
EDMUNDS	9,218	10,140
FALL RIVER	7,614	16,008
FAULK	8,639	6,765
GRANT	8,390	3,477
GREGORY	6,442	8,258
HAAKON	5,293	8,369
HAMLIN	9,478	1,135
HAND	8,334	9,034
HANSON	5,284	2,496
HARDING	2,169	5,132
HUGHES	1,225	4,409
HUTCHINSON	13,935	9,445
HYDE	2,004	4,100

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	FARM INCOME 1975	FARM INCOME 1980
JACKSON	1,753	8,226
JERAULD	2,992	3,171
JONES	1,822	4,413
KINGSBURY	9,598	3,750
LAKE	15,116	3,142
LAWRENCE	505	3,116
LINCOLN	22,073	9,886
LYMAN	3,706	6,112
McCook	11,527	(2,697)
McPherson	7,423	11,028
MARSHALL	9,756	3,335
MEADE	6,318	13,441
MELLETTE	1,650	3,837
MINER	5,785	1,211
MINNEHAHA	31,155	9,065
MOODY	18,247	2,150
PENNINGTON	2,570	11,704
PERKINS	3,903	10,280
POTTER	8,237	7,650
ROBERTS	16,566	12,534
SANBORN	5,119	5,129
SHANNON	0	2,906
SPINK	19,729	10,253
STANLEY	(1,995)	7,349
SULLY	9,644	10,060
TODD	3,631	3,890
TRIPP	8,495	8,643
TURNER	21,979	16,817
UNION	15,185	6,261
WALWORTH	5,560	6,989
YANKTON	12,546	5,990
ZIEBACH	3,226	7,028

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	TOTAL INCOME 1975	TOTAL INCOME 1980
AURORA	16,247	23,423
BEADLE	106,332	168,520
BENNETT	12,130	18,866
BON HOMME	37,729	58,328
BROOKINGS	108,574	167,598
BROWN	207,431	317,756
BRULE	26,820	42,270
BUFFALO	6,005	10,544
BUTTE	35,749	64,078
CAMPBELL	14,768	17,100
CHARLES MIX	45,799	60,351
CLARK	26,601	30,928
CLAY	63,108	91,436
CODINGTON	101,578	159,867
CORSON	19,088	29,225
CUSTER	20,834	43,026
DAVISON	92,363	142,673
DAY	35,515	54,535
DEUEL	24,004	31,634
DEWEY	18,375	36,591
DOUGLAS	20,431	25,388
EDMUNDS	26,803	38,286
FALL RIVER	43,711	77,089
FAULK	21,033	25,632
GRANT	47,226	65,069
GREGORY	29,022	42,411
HAAKON	17,283	25,599
HAMLIN	28,518	29,738
HAND	26,881	39,402
HANSON	16,259	19,197
HARDING	8,413	16,272
HUGHES	74,475	128,057
HUTCHINSON	49,084	63,648
HYDE	9,898	16,658

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY (000)

COUNTY	TOTAL INCOME 1975	TOTAL INCOME 1980
JACKSON	10,511	21,239
JERAULD	13,157	19,290
JONES	8,106	13,721
KINGSBURY	37,475	47,664
LAKE	59,786	75,059
LAWRENCE	80,965	144,649
LINCOLN	71,495	111,939
LYMAN	17,749	27,784
McCook	35,447	34,708
McPherson	21,014	32,032
MARSHALL	31,269	34,923
MEADE	91,496	156,207
MELLETTE	8,409	14,040
MINER	19,507	20,697
MINNEHAHA	609,803	1,029,264
MOODY	41,214	39,352
PENNINGTON	351,723	605,239
PERKINS	22,314	40,198
POTTER	25,266	33,271
ROBERTS	52,996	68,373
SANBORN	16,512	22,786
SHANNON	18,992	35,329
SPINK	56,183	67,917
STANLEY	8,387	24,432
SULLY	17,459	22,303
TODD	23,740	32,854
TRIPP	38,787	54,726
TURNER	56,294	74,056
UNION	60,678	86,197
WALWORTH	37,149	57,893
YANKTON	98,254	146,819
ZIEBACH	8,310	15,707

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY ($)

COUNTY	PER-CAPITA INCOME 1975	PER-CAPITA INCOME 1980
AURORA	4,062	6,456
BEADLE	5,088	8,779
BENNETT	3,466	6,198
BON HOMME	4,837	7,238
BROOKINGS	4,783	6,888
BROWN	5,502	8,597
BRULE	4,705	8,059
BUFFALO	3,336	5,874
BUTTE	4,360	7,654
CAMPBELL	5,907	7,624
CHARLES MIX	4,490	6,235
CLARK	5,019	6,320
CLAY	4,817	6,680
CODINGTON	4,955	7,655
CORSON	3,471	5,625
CUSTER	4,167	7,171
DAVISON	5,131	8,006
DAY	4,178	6,705
DEUEL	4,286	5,981
DEWEY	3,403	6,819
DOUGLAS	4,643	6,072
EDMUNDS	4,702	7,421
FALL RIVER	5,677	9,135
FAULK	5,685	7,704
GRANT	5,024	7,219
GREGORY	4,535	7,051
HAAKON	6,401	9,162
HAMLIN	5,185	5,653
HAND	5,072	7,963
HANSON	4,279	5,621
HARDING	4,674	9,572
HUGHES	5,642	9,005
HUTCHINSON	5,009	6,807
HYDE	4,124	8,051

SOUTH DAKOTA INCOME 1975-1980

EARNINGS BY CATEGORY ($)

COUNTY	PER-CAPITA INCOME 1975	PER-CAPITA INCOME 1980
JACKSON	3,091	6,180
JERAULD	4,244	6,586
JONES	4,768	9,379
KINGSBURY	5,354	7,136
LAKE	5,640	6,999
LAWRENCE	4,791	7,888
LINCOLN	5,958	8,029
LYMAN	4,437	7,190
McCook	5,213	5,386
McPherson	4,568	7,954
MARSHALL	5,486	6,462
MEADE	4,867	7,540
MELLETTE	3,656	6,243
MINER	4,758	5,535
MINNEHAHA	6,044	9,405
MOODY	5,805	5,880
PENNINGTON	5,337	8,602
PERKINS	4,748	8,553
POTTER	6,016	9,056
ROBERTS	4,453	6,266
SANBORN	4,856	7,092
SHANNON	1,792	3,120
SPINK	5,618	7,381
STANLEY	3,355	9,645
SULLY	8,314	11,208
TODD	3,208	4,483
TRIPP	4,910	7,530
TURNER	6,053	8,002
UNION	5,891	7,881
WALWORTH	4,702	8,257
YANKTON	5,282	7,747
ZIEBACH	3,613	6,805

RANK/ORDER OF SOUTH DAKOTA COUNTIES BY MIGRATION TYPE

COMPUTATION FROM COUNTY STATUS BASED ON MEAN (x) SCORE

COUNTY	CON-VERSION	IN MIGR	OUT MIGR	TOTAL SCORE
BROOKINGS	4	3	3	6
BROWN	4	3	3	6
CLAY	4	3	3	6
CUSTER	4	3	3	6
DAVISON	4	3	3	6
FALL RIVER	4	3	3	6
HUGHES	4	3	3	6
LAWRENCE	4	3	3	6
MEADE	4	3	3	6
McPherson	4	3	3	6
PENNINGTON	4	3	3	6
STANLEY	4	3	3	6
YANKTON	4	3	3	6
BON HOMME	3	3	1	4
BUTTE	3	3	1	4
CODINGTON	3	3	1	4
LAKE	3	3	1	4
LINCOLN	3	3	1	4
MINNEHAHA	3	3	1	4
UNION	3	3	1	4
BEADLE	2	-1	3	2
BRULE	2	-1	3	2
CORSON	2	-1	3	2
DEWEY	2	-1	3	2
HAAKON	2	-1	3	2
HAMLIN	2	-1	3	2
HAND	2	-1	3	2
HYDE	2	-1	3	2
JACKSON	2	-1	3	2
LYMAN	2	-1	3	2
MELLETTE	2	-1	3	2
POTTER	2	-1	3	2
SANBORN	2	-1	3	2
SULLY	2	-1	3	2
WALWORTH	2	-1	3	2

RANK/ORDER OF SOUTH DAKOTA COUNTIES BY MIGRATION TYPE

COMPUTATION FROM COUNTY STATUS BASED ON MEAN (x) SCORE

COUNTY	CON-VERSION	IN MIGR	OUT MIGR	TOTAL SCORE
AURORA	1	-1	1	0
BENNETT	1	-1	1	0
BUFFALO	1	-1	1	0
CAMPBELL	1	-1	1	0
CHARLES MIX	1	-1	1	0
CLARK	1	-1	1	0
DAY	1	-1	1	0
DEUEL	1	-1	1	0
DOUGLAS	1	-1	1	0
EDMUNDS	1	-1	1	0
FAULK	1	-1	1	0
GRANT	1	-1	1	0
GREGORY	1	-1	1	0
HANSON	1	-1	1	0
HARDING	1	-1	1	0
HUTCHINSON	1	-1	1	0
JERAULD	1	-1	1	0
JONES	1	-1	1	0
KINGSBURY	1	-1	1	0
MARSHALL	1	-1	1	0
MINER	1	-1	1	0
MOODY	1	-1	1	0
McCook	1	-1	1	0
PERKINS	1	-1	1	0
ROBERTS	1	-1	1	0
SHANNON	1	-1	1	0
SPINK	1	-1	1	0
TODD	1	-1	1	0
TRIPP	1	-1	1	0
TURNER	1	-1	1	0
ZIEBACH	1	-1	1	0

SOUTH DAKOTA COUNTIES - RATE OF NET MIGRATION

COMPARISON OF FIVE AND TEN YEAR PERIOD 1970-1980

COUNTY	RATE NET-MIGRATION 1975-1980	RATE NET-MIGRATION 1970-1980
AURORA	-7.2	-17.3
BEADLE	-7.7	-12.5
BENNETT	-9.1	-14.0
BON HOMME	-3.5	-7.8
BROOKINGS	6.6	2.0
BROWN	-6.3	-7.7
BRULE	-16.6	-16.8
BUFFALO	0.4	-12.2
BUTTE	2.6	1.7
CAMPBELL	-10.8	-23.6
CHARLES MIX	-6.8	-10.0
CLARK	-7.7	-12.3
CLAY	9.0	-1.9
CODINGTON	-1.6	2.0
CORSON	-12.4	-12.5
CUSTER	16.6	23.7
DAVISON	-5.3	-3.5
DAY	-6.1	-7.8
DEUEL	-9.9	-8.5
DEWEY	-11.9	-13.1
DOUGLAS	-5.9	-12.3
EDMUNDS	-10.4	-11.2
FALL RIVER	10.3	12.0
FAULK	-11.7	-15.9
GRANT	20.7	-4.0
GREGORY	-6.8	-13.1
HAAKON	-7.6	-11.9
HAMLIN	-9.8	-5.0
HAND	-11.4	-19.2
HANSON	-11.3	-15.5
HARDING	-2.8	-13.8
HUGHES	-1.6	9.7
HUTCHINSON	-5.9	-10.1
HYDE	-11.5	-21.7

SOUTH DAKOTA COUNTIES - RATE OF NET MIGRATION

COMPARISON OF FIVE AND TEN YEAR PERIOD 1970-1980

COUNTY	RATE NET-MIGRATION 1975-1980	RATE NET-MIGRATION 1970-1980
JACKSON	-9.0	4.1
JERAULD	-9.9	-13.3
JONES	-6.1	-28.5
KINGSBURY	-9.0	-11.0
LAKE	0.6	-10.9
LAWRENCE	7.0	-1.5
LINCOLN	5.5	14.0
LYMAN	-15.4	-14.5
McCook	-6.8	-11.6
McPherson	-4.9	-20.0
MARSHALL	-6.2	-9.5
MEADE	16.0	10.4
MELLETTE	-16.4	-17.8
MINER	-7.1	-16.1
MINNEHAHA	2.8	5.7
MOODY	-2.0	-14.5
PENNINGTON	0.1	0.2
PERKINS	-4.4	-5.0
POTTER	-15.5	-22.1
ROBERTS	-8.3	-12.3
SANBORN	-17.4	-14.3
SHANNON	-3.7	12.0
SPINK	19.5	-15.0
STANLEY	-5.5	8.0
SULLY	-8.0	-24.4
TODD	-8.0	-12.0
TRIPP	-9.4	-18.1
TURNER	-6.6	-4.8
UNION	-0.1	6.6
WALWORTH	-9.3	-15.6
YANKTON	-1.5	-7.2
ZIEBACH	-10.7	-13.6

SOUTH DAKOTA COUNTIES - MARRIAGE DATA

NUMBER OF MARRIAGES 1975 AND 1980

COUNTY	MARRIAGES 1975	MARRIAGES 1980	DIFFERENCE MARRIAGES 1975-1980
AURORA	31	19	-12
BEADLE	217	201	-16
BENNETT	49	40	-9
BON HOMME	76	86	10
BROOKINGS	320	235	-85
BROWN	458	415	-43
BRULE	54	58	4
BUFFALO	2	2	0
BUTTE	102	111	9
CAMPBELL	18	14	-4
CHARLES MIX	102	108	6
CLARK	40	37	-3
CLAY	197	112	-85
CODINGTON	1552	627	-925
CORSON	45	37	-8
CUSTER	57	78	21
DAVISON	216	237	21
DAY	187	118	-69
DEUEL	65	67	2
DEWEY	27	38	11
DOUGLAS	52	43	-9
EDMUNDS	54	41	-13
FALL RIVER	137	118	-19
FAULK	36	33	-3
GRANT	395	178	-217
GREGORY	73	53	-20
HAAKON	23	24	1
HAMLIN	46	31	-15
HAND	57	50	-7
HANSON	36	21	-15
HARDING	9	6	-3
HUGHES	252	255	3
HUTCHINSON	95	92	-3
HYDE	16	12	-4

SOUTH DAKOTA COUNTIES - MARRIAGE DATA

NUMBER OF MARRIAGES 1975 AND 1980

COUNTY	MARRIAGES 1975	MARRIAGES 1980	DIFFERENCE MARRIAGES 1975-1980
JACKSON	16	33	17
JERAULD	34	24	-10
JONES	10	17	7
KINGSBURY	80	60	-20
LAKE	109	95	-14
LAWRENCE	239	268	29
LINCOLN	127	105	-22
LYMAN	17	24	7
McCook	65	62	-3
McPherson	50	19	-31
MARSHALL	72	55	-17
MEADE	139	162	23
MELLETTE	32	17	-15
MINER	27	30	3
MINNEHAHA	1857	1489	-368
MOODY	63	49	-14
PENNINGTON	1005	1162	157
PERKINS	46	38	-8
POTTER	40	41	1
ROBERTS	585	284	-301
SANBORN	31	19	-12
SHANNON	16	13	-3
SPINK	82	68	-14
STANLEY	23	28	5
SULLY	19	13	-6
TODD	13	14	1
TRIPP	96	89	-7
TURNER	99	94	-5
UNION	590	455	-135
WALWORTH	72	75	3
YANKTON	306	296	-10
ZIEBACH	18	5	-13

SOUTH DAKOTA COUNTIES - MARRIAGE DATA

MARRIAGE RATE PER 1,000 1975-1980

COUNTY	MARRIAGES PER 1,000 1975	MARRIAGES PER 1,000 1980	DIFFERENCE IN RATE 1975-1980
AURORA	77	52	-25
BEADLE	108	105	-3
BENNETT	148	131	-17
BON HOMME	98	107	9
BROOKINGS	143	97	-46
BROWN	121	112	-9
BRULE	93	111	18
BUFFALO	11	11	0
BUTTE	123	133	10
CAMPBELL	69	62	-7
CHARLES MIX	97	112	15
CLARK	71	76	5
CLAY	150	82	-68
CODINGTON	781	300	-481
CORSON	88	71	-17
CUSTER	110	130	20
DAVISON	122	133	11
DAY	216	145	-71
DEUEL	114	127	13
DEWEY	45	71	26
DOUGLAS	116	103	-13
EDMUNDS	95	79	-16
FALL RIVER	170	140	-30
FAULK	98	99	1
GRANT	402	197	-205
GREGORY	110	88	-22
HAAKON	82	86	4
HAMLIN	82	59	-23
HAND	104	101	-3
HANSON	97	61	-36
HARDING	48	35	-13
HUGHES	190	179	-11
HUTCHINSON	97	98	1
HYDE	65	58	-7

SOUTH DAKOTA COUNTIES - MARRIAGE DATA

MARRIAGE RATE PER 1,000 1975-1980

COUNTY	MARRIAGES PER 1,000 1975	MARRIAGES PER 1,000 1980	DIFFERENCE IN RATE 1975-1980
JACKSON	50	96	46
JERAULD	110	82	-28
JONES	57	116	59
KINGSBURY	112	90	-22
LAKE	102	89	-13
LAWRENCE	141	146	5
LINCOLN	101	75	-26
LYMAN	41	62	21
McCook	93	96	3
McPherson	105	47	-58
MARSHALL	128	102	-26
MEADE	76	78	2
MELLETTE	135	76	-59
MINER	65	80	15
MINNEHAHA	186	136	-50
MOODY	82	73	-9
PENNINGTON	152	165	13
PERKINS	97	81	-16
POTTER	94	112	18
ROBERTS	492	260	-232
SANBORN	89	59	-30
SHANNON	17	11	-6
SPINK	80	74	-6
STANLEY	91	111	20
SULLY	84	65	-19
TODD	18	19	1
TRIPP	116	122	6
TURNER	104	102	-2
UNION	561	416	-145
WALWORTH	91	107	16
YANKTON	167	156	-11
ZIEBACH	76	22	-54

SOUTH DAKOTA COUNTIES - DIVORCE DATA

NUMBER OF DIVORCES 1975 AND 1980

COUNTY	DIVORCES 1975	DIVORCES 1980	DIFFERENCE DIVORCES 1975-1980
AURORA	2	2	0
BEADLE	74	111	37
BENNETT	10	6	-4
BON HOMME	7	14	7
BROOKINGS	62	76	14
BROWN	137	162	25
BRULE	20	16	-4
BUFFALO	9	9	0
BUTTE	38	45	7
CAMPBELL	4	2	-2
CHARLES MIX	23	35	12
CLARK	9	5	-4
CLAY	40	39	-1
CODINGTON	56	75	19
CORSON	3	4	1
CUSTER	18	36	18
DAVISON	52	75	23
DAY	21	16	-5
DEUEL	5	7	2
DEWEY	8	5	-3
DOUGLAS	3	2	-1
EDMUNDS	5	8	3
FALL RIVER	39	49	10
FAULK	4	6	2
GRANT	16	28	12
GREGORY	13	19	6
HAAKON	4	3	-1
HAMLIN	2	10	8
HAND	9	8	-1
HANSON	5	4	-1
HARDING	1	2	1
HUGHES	57	75	18
HUTCHINSON	10	10	0
HYDE	1	5	4

SOUTH DAKOTA COUNTIES - DIVORCE DATA

NUMBER OF DIVORCES 1975 AND 1980

COUNTY	DIVORCES 1975	DIVORCES 1980	DIFFERENCE DIVORCES 1975-1980
JACKSON	3	12	9
JERAULD	6	4	-2
JONES	3	10	7
KINGSBURY	12	16	4
LAKE	24	34	10
LAWRENCE	97	101	4
LINCOLN	24	39	15
LYMAN	7	8	1
McCook	10	11	1
McPherson	4	6	2
MARSHALL	11	15	4
MEADE	67	98	31
MELLETTE	9	7	-2
MINER	4	7	3
MINNEHAHA	468	542	74
MOODY	9	15	6
PENNINGTON	434	581	147
PERKINS	14	16	2
POTTER	11	8	-3
ROBERTS	12	28	16
SANBORN	11	6	-5
SHANNON	5	3	-2
SPINK	20	36	16
STANLEY	9	11	2
SULLY	3	2	-1
TODD	58	28	-30
TRIPP	19	25	6
TURNER	12	11	-1
UNION	33	58	25
WALWORTH	11	18	7
YANKTON	49	85	36
ZIEBACH	2	1	-1

SOUTH DAKOTA COUNTIES - MARRIAGE DATA

DIVORCES PER 1,000 POPULATION 1975 AND 1980

COUNTY	DIVORCES PER 1,000 1975	DIVORCES PER 1,000 1980	DIFFERENCE IN RATE 1975-1980
AURORA	5	6	1
BEADLE	37	58	21
BENNETT	30	20	-10
BON HOMME	9	17	8
BROOKINGS	28	31	3
BROWN	36	44	8
BRULE	35	31	-4
BUFFALO	48	50	2
BUTTE	46	54	8
CAMPBELL	15	9	-6
CHARLES MIX	22	36	14
CLARK	16	10	-6
CLAY	30	28	-2
CODINGTON	28	36	8
CORSON	6	8	2
CUSTER	35	60	25
DAVISON	29	42	13
DAY	24	20	-4
DEUEL	9	13	4
DEWEY	13	9	-4
DOUGLAS	7	5	-2
EDMUNDS	9	16	7
FALL RIVER	48	58	10
FAULK	11	18	7
GRANT	16	31	15
GREGORY	20	32	12
HAAKON	14	11	-3
HAMLIN	4	19	15
HAND	16	16	0
HANSON	13	12	-1
HARDING	5	12	7
HUGHES	43	53	10
HUTCHINSON	10	11	1
HYDE	4	24	20

SOUTH DAKOTA COUNTIES - MARRIAGE DATA

DIVORCES PER 1,000 POPULATION 1975 AND 1980

COUNTY	DIVORCES PER 1,000 1975	DIVORCES PER 1,000 1980	DIFFERENCE IN RATE 1975-1980
JACKSON	9	35	26
JERAULD	19	14	-5
JONES	17	68	51
KINGSBURY	17	24	7
LAKE	23	32	9
LAWRENCE	57	55	-2
LINCOLN	19	28	9
LYMAN	17	21	4
McCook	14	17	3
McPherson	8	15	7
MARSHALL	20	28	8
MEADE	37	47	10
MELLETTE	38	31	-7
MINER	10	19	9
MINNEHAHA	47	50	3
MOODY	12	22	10
PENNINGTON	66	83	17
PERKINS	29	34	5
POTTER	26	22	-4
ROBERTS	10	26	16
SANBORN	32	19	-13
SHANNON	5	3	-2
SPINK	20	39	19
STANLEY	36	43	7
SULLY	13	10	-3
TODD	80	38	-42
TRIPP	23	34	11
TURNER	13	12	-1
UNION	31	53	22
WALWORTH	14	26	12
YANKTON	27	45	18
ZIEBACH	8	4	-4

SOUTH DAKOTA COUNTIES - HOUSING DATA

COMPARISON OF OWNER OCCUPIED HOUSING 1970-1980

COUNTY	OWNER OCCUPIED 1970	OWNER OCCUPIED 1980	DIFFERENCE OWNERSHIP 1970-1980
AURORA	73.80	78.94	5.14
BEADLE	71.60	69.99	-1.61
BENNETT	70.60	67.60	-3.00
BON HOMME	76.10	76.74	0.64
BROOKINGS	66.50	64.36	-2.14
BROWN	66.00	66.86	0.86
BRULE	73.10	73.63	0.53
BUFFALO	59.00	44.94	-14.06
BUTTE	68.90	71.10	2.20
CAMPBELL	83.00	87.06	4.06
CHARLES MIX	70.10	72.47	2.37
CLARK	78.10	78.34	0.24
CLAY	54.70	57.65	2.95
CODINGTON	70.20	68.12	-2.08
CORSON	73.80	63.77	-10.03
CUSTER	71.20	72.39	1.19
DAVISON	65.70	65.41	-0.29
DAY	76.50	75.70	-0.80
DEUEL	80.70	82.43	1.73
DEWEY	63.40	56.43	-6.97
DOUGLAS	79.10	80.14	1.04
EDMUNDS	85.10	80.87	-4.23
FALL RIVER	67.40	69.15	1.75
FAULK	81.10	78.92	-2.18
GRANT	76.60	76.15	-0.45
GREGORY	74.80	75.29	0.49
HAAKON	74.80	76.32	1.52
HAMLIN	80.00	81.93	1.93
HAND	75.10	75.17	0.07
HANSON	74.20	79.35	5.15
HARDING	84.20	76.12	-8.08
HUGHES	65.40	67.20	1.80
HUTCHINSON	83.50	82.75	-0.75
HYDE	76.20	79.56	3.36

SOUTH DAKOTA COUNTIES - HOUSING DATA

COMPARISON OF OWNER OCCUPIED HOUSING 1970-1980

COUNTY	OWNER OCCUPIED 1970	OWNER OCCUPIED 1980	DIFFERENCE OWNERSHIP 1970-1980
JACKSON	73.15	67.58	-5.57
JERAULD	79.30	77.02	-2.28
JONES	79.80	78.52	-1.28
KINGSBURY	76.50	77.51	1.01
LAKE	69.00	69.45	0.45
LAWRENCE	63.30	67.10	3.80
LINCOLN	72.90	80.27	7.37
LYMAN	78.00	73.30	-4.70
McCook	76.10	76.92	0.82
McPherson	88.30	82.91	-5.39
MARSHALL	76.30	74.43	-1.87
MEADE	52.60	65.15	12.55
MELLETTE	75.50	69.64	-5.86
MINER	78.60	79.02	0.42
MINNEHAHA	66.90	65.20	-1.70
MOODY	69.60	72.87	3.27
PENNINGTON	60.70	64.11	3.41
PERKINS	79.70	78.51	-1.19
POTTER	75.80	76.18	0.38
ROBERTS	71.80	69.72	-2.08
SANBORN	78.30	80.21	1.91
SHANNON	55.00	44.75	-10.25
SPINK	74.60	73.84	-0.76
STANLEY	68.90	75.29	6.39
SULLY	75.40	75.73	0.33
TODD	65.00	53.76	-11.24
TRIPP	74.70	73.58	-1.12
TURNER	77.90	80.05	2.15
UNION	71.90	73.83	1.93
WALWORTH	74.90	76.00	1.10
YANKTON	67.00	67.24	0.24
ZIEBACH	65.20	61.67	-3.53

SOUTH DAKOTA COUNTIES - HOUSING DATA

COMPARISON RENTER OCCUPIED HOUSING UNITS 1970-1980

COUNTY	PERCENT RENTAL 1970	PERCENT RENTAL 1980	DIFFERENCE RENTAL 1970-1980
AURORA	26.20	21.06	-5.14
BEADLE	28.40	30.01	1.61
BENNETT	29.40	32.40	3.00
BON HOMME	23.90	23.26	-0.64
BROOKINGS	33.50	35.64	2.14
BROWN	34.00	33.14	-0.86
BRULE	26.90	26.37	-0.53
BUFFALO	41.00	55.06	14.06
BUTTE	31.10	28.90	-2.20
CAMPBELL	17.00	12.94	-4.06
CHARLES MIX	29.90	27.53	-2.37
CLARK	21.90	21.66	-0.24
CLAY	45.30	42.35	-2.95
CODINGTON	29.80	31.88	2.08
CORSON	26.20	36.23	10.03
CUSTER	28.80	27.61	-1.19
DAVISON	34.30	34.59	0.29
DAY	23.50	24.30	0.80
DEUEL	19.30	17.57	-1.73
DEWEY	36.60	43.57	6.97
DOUGLAS	20.90	19.86	-1.04
EDMUNDS	14.90	19.13	4.23
FALL RIVER	32.60	30.85	-1.75
FAULK	18.90	21.08	2.18
GRANT	23.40	23.85	0.45
GREGORY	25.20	24.71	-0.49
HAAKON	25.20	23.68	-1.52
HAMLIN	20.00	18.07	-1.93
HAND	24.90	24.83	-0.07
HANSON	25.80	20.65	-5.15
HARDING	15.80	23.88	8.08
HUGHES	34.60	32.80	-1.80
HUTCHINSON	16.50	17.25	0.75
HYDE	23.80	20.44	-3.36

SOUTH DAKOTA COUNTIES - HOUSING DATA

COMPARISON RENTER OCCUPIED HOUSING UNITS 1970-1980

COUNTY	PERCENT ENTAL 1970	PERCENT RENTAL 1980	DIFFERENCE RENTAL 1970-1980
JACKSON	26.85	32.42	5.57
JERAULD	20.70	22.98	2.28
JONES	20.20	21.48	1.28
KINGSBURY	23.50	22.49	-1.01
LAKE	31.00	30.55	-0.45
LAWRENCE	36.70	32.90	-3.80
LINCOLN	27.10	19.73	-7.37
LYMAN	22.00	26.70	4.70
McCook	23.90	23.08	-0.82
McPherson	11.70	17.09	5.39
MARSHALL	23.70	25.57	1.87
MEADE	47.40	34.85	-12.55
MELLETTE	24.50	30.36	5.86
MINER	21.40	20.98	-0.42
MINNEHAHA	33.10	34.80	1.70
MOODY	30.40	27.13	-3.27
PENNINGTON	39.30	35.89	-3.41
PERKINS	20.30	21.49	1.19
POTTER	24.20	23.82	-0.38
ROBERTS	28.20	30.28	2.08
SANBORN	21.70	19.79	-1.91
SHANNON	45.00	55.25	10.25
SPINK	25.40	26.16	0.76
STANLEY	31.10	24.71	-6.39
SULLY	24.60	24.27	-0.33
TODD	35.00	46.24	11.24
TRIPP	25.30	26.42	1.12
TURNER	22.10	19.95	-2.15
UNION	28.10	26.17	-1.93
WALWORTH	25.10	24.00	-1.10
YANKTON	33.00	32.76	-0.24
ZIEBACH	34.80	38.33	3.53

SOUTH DAKOTA COUNTIES

MAINTENANCE VARIABLES (000) - 1980

COUNTY	FEMALE HOUSEHOLDERS 1980	GOVERNMENT EMPLOYED 1980	SELF EMPLOYED 1980
AURORA	37	292	597
BEADLE	465	1326	1289
BENNETT	99	396	293
BON HOMME	139	714	909
BROOKINGS	398	3488	1522
BROWN	989	3077	2127
BRULE	125	433	727
BUFFALO	89	220	120
BUTTE	213	559	797
CAMPBELL	30	140	378
CHARLES MIX	278	1001	1144
CLARK	64	260	750
CLAY	268	2489	836
CODINGTON	498	1260	1202
CORSON	210	597	448
CUSTER	120	859	414
DAVISON	469	1136	990
DAY	163	610	1028
DEUEL	75	273	833
DEWEY	228	937	530
DOUGLAS	54	247	640
EDMUNDS	80	370	808
FALL RIVER	245	954	537
FAULK	48	270	480
GRANT	155	420	914
GREGORY	132	352	881
HAAKON	39	150	410
HAMLIN	94	338	732
HAND	61	342	752
HANSON	39	167	516
HARDING	25	130	320
HUGHES	421	3277	650
HUTCHINSON	136	448	1420
HYDE	38	179	292

SOUTH DAKOTA COUNTIES

MAINTENANCE VARIABLES (000) - 1980

COUNTY	FEMALE HOUSEHOLDERS 1980	GOVERNMENT EMPLOYED 1980	SELF EMPLOYED 1980
JACKSON	100	402	325
JERAULD	43	189	469
JONES	24	84	239
KINGSBURY	96	420	933
LAKE	208	779	925
LAWRENCE	485	1474	820
LINCOLN	217	688	1213
LYMAN	109	419	377
McCook	111	359	894
McPherson	57	232	616
MARSHALL	118	357	680
MEADE	384	1779	1118
MELLETTE	92	236	246
MINER	59	265	434
MINNEHAHA	3115	6376	4376
MOODY	131	548	927
PENNINGTON	2183	5561	2559
PERKINS	80	276	812
POTTER	58	235	445
ROBERTS	284	1123	1216
SANBORN	57	188	449
SHANNON	650	1927	135
SPINK	185	1033	1075
STANLEY	59	312	226
SULLY	28	171	267
TODD	420	1119	346
TRIPP	171	485	1076
TURNER	121	430	1395
UNION	212	559	866
WALWORTH	156	430	559
YANKTON	431	1568	1189
ZIEBACH	73	362	293

SOUTH DAKOTA COUNTIES - DISCRIMINANT ANALYSIS

CLASSIFICATION RESULTS FOR CALIBRATION DATA

NO. CODE	COUNTY	TYPE FROM	TO	POSTERIOR PROBABILITY FOR RECLASSFICATION OF COUNTY 1	2	3	4
7	BRULE	2	1	0.8562	0.1284	0.0000	0.0154
15	CORSON	2	1	0.8015	0.1902	0.0000	0.0083
16	CUSTER	4	1	0.9316	0.0132	0.0000	0.0552
20	DEWEY	2	4	0.3155	0.3136	0.0000	0.3709
27	HAAKON	2	1	0.8488	0.1455	0.0000	0.0057
28	HAMLIN	2	1	0.9930	0.0070	0.0000	0.0000
29	HAND	2	1	0.7640	0.2239	0.0000	0.0121
34	HYDE	2	1	0.8374	0.1373	0.0000	0.0253
35	JACKSON	2	1	0.6404	0.3594	0.0000	0.0002
42	LYMAN	2	1	0.9056	0.0357	0.0000	0.0587
45	MARSHALL	4	1	0.7462	0.1430	0.0000	0.1108
47	MELLETTE	2	1	0.7382	0.2604	0.0000	0.0014
53	POTTER	2	1	0.8914	0.0937	0.0000	0.0148
55	SANBORN	2	1	0.8660	0.1324	0.0000	0.0016
58	STANLEY	4	1	0.9369	0.0000	0.0000	0.0631
59	SULLY	2	1	0.8502	0.1354	0.0000	0.0145
64	WALWORTH	2	1	0.4720	0.1120	0.0000	0.4160

IN AND OUT—MIGRATION RATE

SOUTH DAKOTA COUNTIES 1975—1980